ECORYS
Research and Consulting

Dryport Emmen-Coevorden

Strengthening the logistic hub

Final Report

10 december 2009

The Interreg IVB North Sea Region Programme
Investing in the future by working together for a sustainable and competitive region

Gemeente Emmen

gemeente COEVORDEN

provincie Drenthe

DRYPORT

Dryport Emmen-Coevorden

Strengthening the logistic hub

Final Report

Client: City of Emmen, City of Coevorden, Province of Drenthe

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Nederlandse samenvatting

Definitie van een dryport

Een dryport is in essentie een **haven**, gelegen in het **achterland** in een industrieel/handelscentrum, die **multimodaal** is **verbonden** met één of meerdere **zeehavens** en die **dezelfde diensten** levert als in de zeehaven worden geboden.

Een dryport is meestal gericht op containers en intermodale units. Diensten die worden aangeboden zijn typisch de volgende:

- Intermodaal vervoer en overslag van goederen
- Informatie uitwisseling tussen ketenpartijen (vervoerders, verladers, dienstverleners)
- Diensten m.b.t. laadeenheden (bijvoorbeeld depot, opslag, onderhoud van containers)
- Douane
- Logistieke afhandeling

De vraag is of de regio Emmen-Coevorden, gegeven de voorzieningen die er nu al zijn en de verwachte ontwikkelingen in zowel vraag (goederenstromen) als aanbod (infrastructuur, technologie) de potentie heeft uit te groeien tot een dryport. Hiervoor is in dit onderzoek gekeken naar:

1. Goederenstromen van en naar de regio Emmen-Coevorden, en langs de corridor tussen zeehavens en het Noord-Europese achterland
2. De beschikbaarheid van infrastructuur en diensten
3. de opinie van stakeholders (verladers en vervoerders, dienstverleners)

Op basis van deze aspecten is een SWOT analyse uitgevoerd en daaruit zijn aanbevelingen voor vervolgacties afgeleid.

Goederenstromen

Voor een dryport in de regio Emmen-Coevorden zijn twee typen goederenstromen in potentie relevant. Dit zijn:

a. Stromen die beginnen of eindigen in de regio zelf. Dit zijn zogenaamde ‘captive’ stromen.
b. Stromen die vanuit Nederlandse zeehavens naar het Noord-Europese achterland worden vervoerd, en die mogelijk via een hub in Zuidoost Drenthe zouden kunnen lopen, of stromen vanuit Noord-Duitse zeehavens naar (noord) Nederland die eveneens via een hub in Drenthe zouden kunnen worden geleid.

Ad a.) Stromen van en naar de regio

Uit analyse van beschikbare statistieken (CBS) blijkt dat dit een omvangrijke stroom is: ruim 14 miljoen ton lading wordt van, naar en binnen het COROP gebied zuidoost Drenthe vervoerd. Belangrijke notie hierbij is dat meer dan de helft stromen betreft naar andere delen van Nederland, en dat ongeveer 1 miljoen ton stromen van/naar de zeehavens Amsterdam en Rotterdam. Ook is het belangrijk te weten dat slechts een klein

deel, ongeveer 500.000 ton, containerlading betreft. Het overige is grotendeels droge bulk (ongeveer de helft) en stukgoed (ongeveer een derde).
Tot slot is geconstateerd dat van de stromen van/naar de regio Emmen-Coevorden verreweg het grootste deel via de weg wordt vervoerd. Alleen op de route van/naar Rotterdam is een substantieel aandeel spoorvervoer.

Ad b.) Stromen op corridors langs zuidoost Drenthe
Voor deze 'non-captive' stromen is gekeken naar lading vanuit de Nederlandse zeehavens Amsterdam en Rotterdam, naar bestemmingen in Noord-Duitsland, Scandinavië, Polen, Rusland en de Baltische Staten. De aanname is dat lading naar bestemmingen zuidelijker in Europa waarschijnlijk niet via een hub in Drenthe zullen lopen, maar eerder via hubs in zuid Nederland, België of het midden van Duitsland. De belangrijkste bevindingen uit de stromenanalyse zijn:

- Het totale volume is met ruim 27 miljoen ton omvangrijk.
- Duitsland is verreweg de belangrijkste bestemming, terwijl de volumes naar Scandinavië relatief zeer beperkt zijn en vooral over de weg gaan.
- Hoewel ook hier het wegvervoer een groot aandeel uitmaakt, is de modal split evenwichtiger met ca. 52% spoor en 8% binnenvaart.
- Het aandeel containers is hier groter, ongeveer een derde, en wordt gedomineerd door wegvervoer.
- Volumes vanuit de Noord-Duitse havens Wilhelmshaven, Bremen en Hamburg naar Nederland zijn ongeveer 1 miljoen ton. Hiervan is slechts een klein deel voor Noord-Nederland bestemd. Ongeveer een kwart betreft containers.

Stakeholders geven aan dat aan de ene kant voldoende volume beschikbaar moet zijn om multimodale diensten te kunnen aanbieden, en anderzijds er voldoende frequentie van diensten moet zijn om multimodaal vervoer aantrekkelijk te maken. Daarbij is de connectiviteit – de aansluiting op andere diensten – belangrijk. Een railverbinding met hub Duisburg kan bijvoorbeeld een veelheid aan verbindingen in Europa bereikbaar maken. Om dit te bereiken zal bundeling van stromen nodig zijn, en dat vereist coördinatie in de regio.

Infrastructuur en diensten
De infrasructuur in de regio Emmen-Coevorden is goed op orde. Over de weg is de regio erg goed bereikbaar, er is nauwelijks congestie, en op enkele ontbrekende schakels zijn voor de nabije toekomst uitbreidingsplannen voorzien.
Ook via het spoor zijn zowel Coevorden (Europark) als Emmen (EMMTEC) goed te bereiken. Vanuit het Europark is daarnaast de directe verbinding naar Duitsland via de Bentheimer Eisenbahn een zeer bijzondere meerwaarde voor het spoorvervoer van en naar de regio. Wel is opgemerkt dat er soms beperkingen zijn ten aanzien van capaciteit op de railverbindingen naar de Rotterdamse haven.
De regio Emmen-Coevorden is via binnenvaart ontsloten, zij het dat de diepgang beperkt is. De vaarweg Almelo – Coevorden laat schepen toe tot maximaal 1000 ton (maar is eigenlijk ontworpen voor schepen tot 700 ton). Stakeholders geven aan dat dit eigenlijk minimaal 1200 ton zou moeten zijn.

Ten aanzien van diensten is er al veel aanbod aanwezig in de regio. Het belangrijkste risico volgens stakeholders is de beperkte beschikbaarheid van hoog opgeleid personeel.

Bij verdere economische groei kan dit een knelpunt vormen. De aanwezigheid van goede opleidingsinstellingen zoals Stenden Hogeschool wordt daarom als een belangrijke asset gezien.

SWOT analyse

Onderstaande tabel vat de belangrijkste sterktes, zwaktes, kansen en bedreigingen samen.

Sterktes	**Zwaktes**
• Beschikbare ruimte • Goede bereikbaarheid via weg en spoor • Directe grensoverschrijdende rail verbinding (Bentheimer Eisenbahn) • Tri-modale terminal • Geen congestie	• Niet langs belangrijke oost-west corridors • Gebrek aan hoog opgeleid personeel • Bereikbaarheid met binnenvaart is beperkt • Capaciteit via spoor tussen Rotterdam en Coevorden/Meppel is beperkt
Kansen	**Bedreigingen**
• Ontwikkeling van binnenvaart (inclusief terminal ontwikkeling) • Bundeling van stromen (specifiek MKB) • Modal shift naar binnenvaart en spoor • Samenwerking met Nederlandse en Duitse havens • Gebruik van operators die ook actief zijn in andere regio's • Promoten van de regio als 'groene corridor'	• Concurrentie van nabij gelegen terminals • Schaalvergroting, vooral in de binnenvaart

Aanbevelingen

Om de huidige logistieke activiteiten uit te bouwen tot een dryport in de regio Emmen-Coevorden, worden de volgende stappen aanbevolen:

1. Ontwikkel een integrale visie en actieprogramma over de gewenste logistieke ontwikkelingen en ambities (met andere woorden: stel vast wat de regio wil bereiken).
2. Zoek commitment en samenwerking met de belangrijkste stakeholders in de regio (zowel publiek als privaat, bijvoorbeeld de grootste verladers en vervoerders).
3. Benoem een coördinator om dit proces te organiseren en te monitoren en coördineer de acties.
4. Promoot de dryport onder potentiële verladers, vervoerders en andere stakeholders.
5. Versterk de relatie met andere dryports en met zeehavens.
6. Ontwikkel de benodigde infrastructuur (zowel fysieke infrastructuur als kennis).

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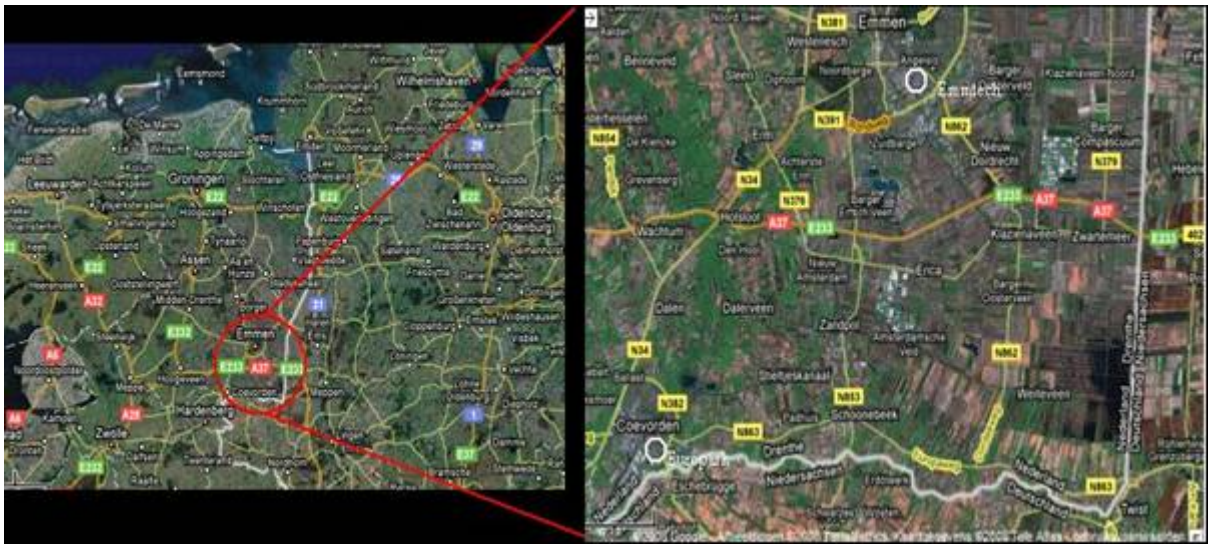
1 Introduction

1.1 Description of the region Emmen-Coevorden

South-East Drenthe has a large logistical centre located near Coevorden. The Europark area, measuring 350 ha (120 ha on the Dutch side and 230 ha on the German side), is designed according to current standards, connected by road, rail and inland waterway, located virtually on the border with Germany and linked with the German railway network. Most companies located there have new facilities and are realizing or planning additional capacity. There is land available for expansion. The EMMTEC park in Emmen has a size of 95 ha and offers business locations which are accessible via rail and road. In addition to this, the Business Park A37 offers additional opportunities.



The area is located in the north-east of the Netherlands, along the transport corridor between the seaports of Amsterdam and Rotterdam, and Northern Germany. Companies located on the park also serve the Baltics and Scandinavia, as well as domestic clients.

The authorities involved in the development of these logistic parks are the cities of Coevorden and Emmen, and the province of Drenthe. They intend to further expand and consolidate the position of this “Freight hub Emmen-Coevorden”. Their ambitions are covered under the heading “Dryport Connext”.

1.2 The Interreg project Dryport

The three authorities are participating in the INTERREG North Sea region project Dryport, with the main aim to investigate how the dryport concept can be realized in the Emmen-Coevorden region and which infrastructure is required for this. Further to this, a focus on new ideas and innovations is considered an opportunity for becoming a logistic hub. Dryport is the first project to be approved under Priority 3.3 of the North Sea Programme which aims 'To promote the development of efficient and effective logistics solutions'.

Dryport

Dryport is an Interreg North Sea project that aims at shifting the transport of freight from road to rail and inland waterways. Dryports are the extensions of gateway ports in the inland or in other words: vital functions are moved from a harbour to a more or less remote freight combi-terminal.

Partners are from Edinburgh Scotland, Felixstowe England, Zeebrugge Belgium, Fryslan and Emmen in the Netherlands and Västra Götaland and Skaraborg Sweden. The lead partner is the Region of Västra Götaland in Sweden. Dryport areas covered under the project are:

- Edinburg gateway
- Haven gateway
- Port of Zeebrugge
- Fryslân/Harlingen
- Emmen-Coevorden
- Västra Götaland

In three years time the partners hope to set a number of dryports that will become an example of the cooperation between public and private.

Source: www.dryport.org

In the past, several studies have been conducted on the Emmen-Coevorden region, among which a plan for development of a northern freight hub by Buck Consultants International and a vision on the logistical perspectives by TNO.

The authorities are of the opinion that an additional set of studies does not help in realizing their objectives. Conclusions and recommendations from past research should be reconsidered, taking into account recent developments i.e. in markets and freight flows, increasing congestion in the mainport areas, and new logistics concepts.

1.3 Objective of the study

The objective of this study is to define in a concise way:

- What level of ambitions realistically fits to the expected market developments?
- What actions are needed to facilitate these levels?

Questions that will need to be answered in order to realise this objective are the following:

- What are the expected future freight flows on the northern corridor?
- What added value can be realised in the region by accommodating these flows?
- What are the most important missing links in the infrastructure network?

- What innovations are taking place that the dryport may benefit from?
- Which parties are acting on the corridor? What are their plans?

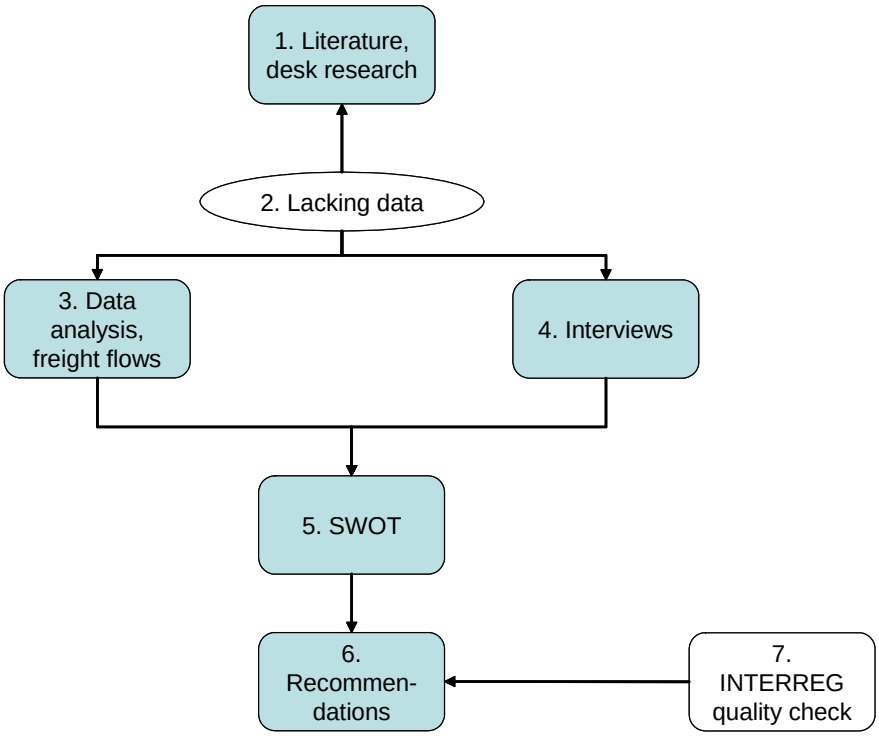
Further to this, the results of the study should fit under the INTERREG IVB Dryport project. Two main components should therefore be:

- The exchange of knowledge and experiences (i.e. Stenden University)
- Recommendations that contribute to sustainable development

1.4 Project approach and this report

The project approach comprises 7 steps as illustrated below.

Figure 1.1 Project approach



The study departs from the work that has already been done: in the first step all relevant documents have been collected and analysed. Based on these document, relevant aspects (freight flows, infrastructure, regional development etc.) have been described and main conclusions in relation to the region have been derived. The result of this step is a summarised overview of available knowledge and data on the dryport sorted by aspect. From the results of step 1, the lacking data can easily be derived (step 2), as they concern those aspects for which no qualitative or quantitative information was found in the literature that was reviewed.

It appeared that understanding of the freight flows on the corridors which are potentially relevant for logistics service providers[1] in south east Drenthe is not available. Since a freight flow analysis is an important basis for strategy development, this analysis has been conducted in step 3. In step 4 interviews have been conducted with major stakeholders in the Emmen-Coevorden region. In this way an impression of the opinion of major (potential) clients of the dryport and their ideas on measures required for the ambitions of the dryport can be derived. The findings of steps 1, 3 and 4 have been combined to set up a SWOT analysis (step 5), followed by step 6, the recommendations and actions resulting in a prioritised list of actions.

As an extra step, a workshop was held on the dryport concept. This workshop – held 29 October 2009 – was attended by approximately 60 stakeholders, both from public authorities (municipalities, sector organisations, infrastructure managers, knowledge institutes) and private companies (shippers, transport companies, terminal operators). In the workshop, visions were shared and opinions given, and discussion was held on the potential and feasibility of implementing the dryport concept in the region.

1.5 This report

This report comprises the findings of these steps. Chapter 2 starts with a typology of a dryport. In chapter 3 freight flows which are potentially relevant for the region are analysed. Chapter 4 goes into infrastructure and services in relation to the dryport concept.
Next, the findings of the previous chapters are combined into an analysis of the strengths, weaknesses, opportunities and threats (SWOT) for the region regarding their ambition to become a dryport (chapter 5). In chapter 6, the reflections from the workshop are summarised. Together with the SWOT, they form the basis for further specific recommendations on what is realistically achievable and what further actions are necessary then (chapter 7). Finally, the report provides specific recommendations in what way the contents of this report might be used in INTERREG context (chapter 8).

[1] Distribution company that offers a range of transport, warehousing, distribution and related services to other companies in the supply chain.

2 Typology of a dryport

2.1 Definition of dryport

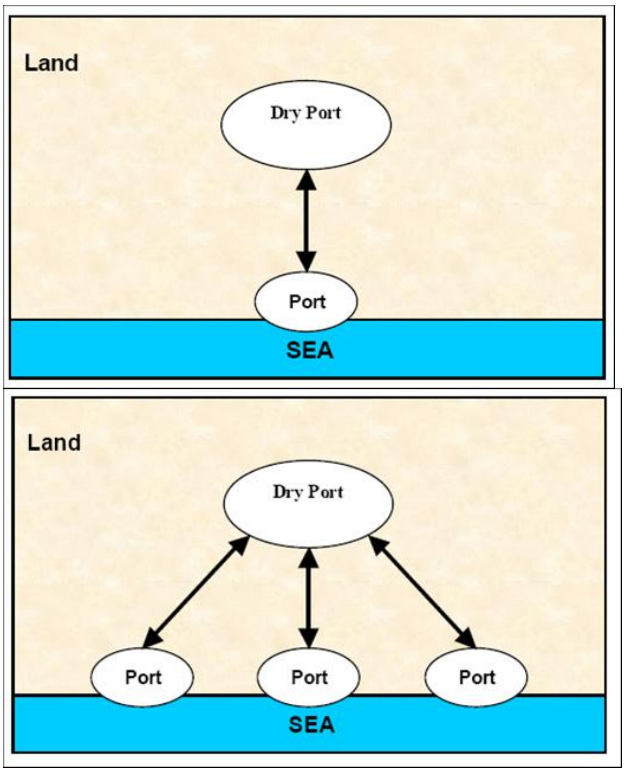
A definition of a dryport can be found in a Danish study conducted in 2007:

> 'A dryport is a port situated in the hinterland servicing an industrial/commercial region connected with one or several ports with rail-, road- or inland water transport and is offering specialized services between the dryport and the overseas destinations. Normally the dryport is container and multimodal oriented and has all logistic services and facilities needed for shipping and forwarding agents in a port[2]'.

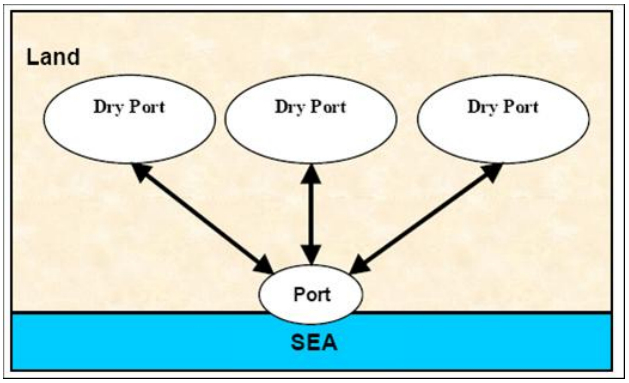
Different types of dryports exist (see next figure):

- One dryport services one port;
- One dryport services three different ports;
- Different dryports are servicing the same port.

Figure 2.1 Different types of dryports



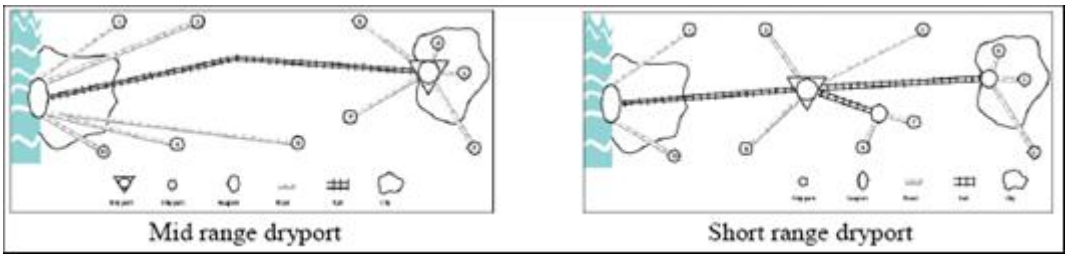
[2] Feasibility Study on the network operation of hinterland hubs (Dryport Concept) to improve and modernize ports' connections to the hinterland and to improve networking, FDT, 31-1-2007.



Source: Feasibility Study on the network operation of hinterland hubs (Dryport Concept) to improve and modernise ports' connections to the hinterland and to improve networking, FDT, 31-1-2007

Dryports can be on distant, mid-range or close-range to seaports. As mid-range and short-range dryports are close to the seaport and transport distances are relatively short, inbound and outbound flows are mostly handled by road transport. Long distance dryports are located further in the hinterland, the transport distance between the seaport and the dryport is much larger. Inland shipping and rail become more competitive on these longer transport distances.

Figure 2.2 Mid range and short range dryport



Source: Interreg IVB North Sea project 'Dryport – a modal shift in practice' Summary project description

The following scheme shows the advantages and disadvantages of distant, mid-range or close range type of dryports. For all three types of dryports it can be concluded that they increase inland access, strengthen multi-modal solutions, avoid traffic bottlenecks and reduce pollution.

Table 2.1 Dryport advantages and disadvantages

	Close Dry port	Middle range dry port	Distant dry port
Conditions	• Transit activity dominant in the seaport; • There is a need due to the lack of space at the seaport.	• High volume customers; • Rail link between seaport and market.	• Rail link between seaport and market;
Location level	• Decongestion of the city access; • Reduction of pollution; • Increased intermodal transportation.	• Region attracts industries; • Reduction of pollution; • Increased intermodal transportation.	• Acquiring new hinterland for the seaport in consideration; • Reduction of pollution; • Increased intermodal transportation.
Infrastructure level	• Reduction of road maintenance cost; • Increase of rail maintenance cost; • Reduction of cost for road infrastructure development; • Increase of cost for rail infrastructure development.	• Reduction of road maintenance cost (in case of pay roads, reduction of profits); • Increase of rail maintenance cost.	• Reduction of road maintenance cost (in case of pay roads, reduction of profits); • Increase of rail maintenance cost.
Transport level	• Light reduction activity for road carriers from/to seaport; • Reduction of congestion and waiting time for transport operators; • Increase of transit time; • Increase of handlings.	• Reduction activity for road carriers from/to seaport; • Reduction of waiting time for units; • Decrease of transport cost; • Coordination with rail passenger traffic.	• Light reduction activity for road carriers from/to seaport; • Reduction of waiting time for units; • Decrease of transport cost; • Coordination with rail passenger traffic.
Logistical level	• Increased inland access and city distribution; • Invitation for the use of intermodal solutions.	• Increased inland access; • Decrease of costs.	• Increased inland access; • Possibility to choose between seaports; • Decrease of costs.
Customers viewpoint	• Raise of costs at the beginning; • Decrease of cost in long term? • Reception of units closer to their own geographical location.	• Easy access to seaport; • Decrease of costs; • Slight increase of transit time.	• Easy access to seaport; • Decrease of costs; • Increase of transit time (or decrease depending on the country of interest, on its road infrastructure quality level, and on distance to cover).

Source: Feasibility Study on the network operation of hinterland hubs (Dryport Concept) to improve and modernise ports' connections to the hinterland and to improve networking, FDT, 31-1-2007

Conventional inland terminals provide a basic service: transhipment of goods. Full-service dryports on the other hand include functions like storage, consolidation, depot storage of empty containers, container maintenance and repair, custom clearance. Another difference is that the gates of the seaport are extended into the inland and that the shipper or forwarder sees the dryport as an adequate interface towards the port and the shipping lines. Furthermore a dryport can be more than just an intermodal terminal; a dryport is a concept combining activities that are performed by various parties, similar to the situation in a seaport.

2.2 Services provided in a dryport

In general the following services[3] should be provided in a dryport:

- Intermodal transport and handling of goods;
- Information handling;
- Load unit handling;
- Customs;
- Logistics services.

Intermodal transport and handling

Goods in unit loads – containers, swap bodies or trailers – can be transported efficiently via the use of different modes. The quality of access to a dryport and the quality of the road/ rail/waterway interface determines the quality of terminal performance (i.e. transhipment costs, waiting times, damage risk, etcetera) and needs scheduled, reliable, transport by high capacity means to and from the seaport.

Information handling

Freight transport involves different actors. In intermodal transport to and from a dryport this becomes more complicated as the number of actors increases: shippers (goods owners), shipping lines, agents, transport operators (road, rail or inland waterway), customs, inland terminal and port terminal. Handling of information is crucial for moving the goods effectively and efficiently through the transport chain. Information comprises customs clearance, load lists, dangerous goods, invoicing and booking. The reliability of the goods flow (right place, time, quantity and condition) is to a great extent dependent on the accuracy of the handling of information within and between actors.
Barge operators and terminals with the right information regarding regional transport patterns and with an own network in The Netherlands are able to get empty containers on the right place at relative low costs. Offering this kind of information makes them interesting parties for shipping lines.

Load unit handling

Load unit handling concerns the depot- and the storage functions. The intermodal flow of containers, swap bodies, trailers, implies a need for short time storage (including dangerous goods, reefer containers) and maintenance (including cleaning). The manufacturing industry and retailers have focused on decreasing their own storage facilities. A consequence is that port terminals are used as storage areas. Congestion in ports does call for solutions and dryports might play an important role in this respect.
A contributing factor to goods being stored in port terminals is associated to the safety and security factor. With security standards as CSI and ISPS it is considered safer to store goods in port terminals than at factory sites. A dryport should therefore offer the same security level as a port terminal.

Customs

Import and export of goods outside the EU are regulated by custom regulations. Especially imports are affected as customs include administration and the payment of

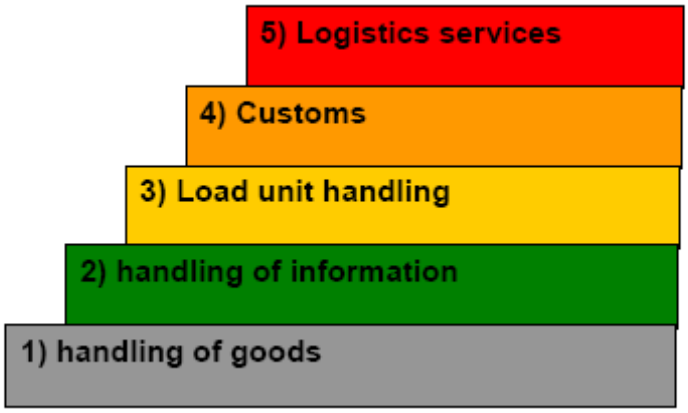
[3] Source: Interreg IVB North Sea project 'Dryport – a modal shift in practice' Summary project description.

various fees and taxes. Goods arriving from countries outside the EU must cross the border at authorised points. Postponed administration of customs (import and export) to the dryport would bring with it improved port throughput and postponed payment of custom fees and taxes for the importer. A dryport terminal should therefore offer a customs storage area.

Logistics services

The above mentioned storage functions are focused on the load units (full or empty). The logistics function is related to the handling of goods prior or after the transport in a load unit. Logistics services which a dryport should offer is stuffing and stripping, warehousing, value added services (i.e. assembly, packing) and distribution.

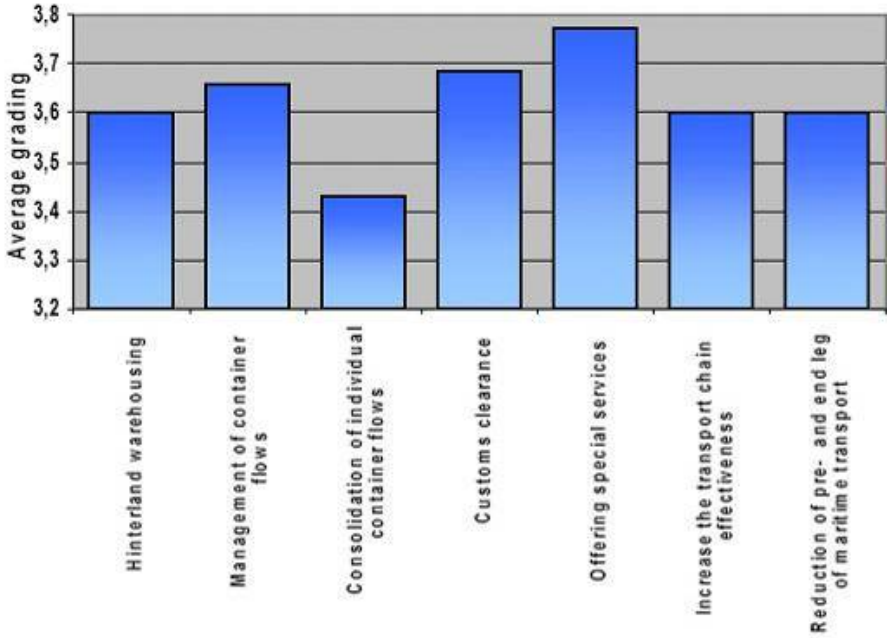
Figure 2.3 Dryport functionalities



Source: Interreg IVB North Sea project 'Dryport – a modal shift in practice' Summary project description

Based on a questionnaire which was sent to 69 participants, with the aim to evaluate the importance of the dryport functions, it was concluded that dryports should offer the same functions as the seaport, in order to have a competitive advantage (figure 2.4).

Figure 2.4 Necessary functions of the dryport (Scale 1= not important, 5=very important)



Source: Feasibility Study on the network operation of hinterland hubs (Dryport Concept) to improve and modernise ports' connections to the hinterland and to improve networking, FDT, 31-1-2007

An important way to improve the efficiency of container transport in the dryport is to cooperate in a system that repositions empty containers. Barge operators and terminals with the right information regarding regional transport patterns and with an own network in The Netherlands are able to get empty containers on the right place at relative low costs. This means that they are interesting partners for container shipping companies because container shipping companies do not have a good view of the merchant haulage streams where the shipper uses a forwarder to organize the transport (compared to the carrier haulage streams where the container shipping company organizes the landside transport itself). The forwarder in turn uses a transport company for the transport. As a result the container shipping company does not always know who received 'their' containers. The greatest part of the hinterland transport comprises of merchant haulage streams.[4] This means that a dryport could improve the efficiency of container transport if it participates in a system for the repositioning of empty containers between inland terminals[5]. For a dryport in the Emmen-Coevorden region, these inland terminals would comprise rail and inland water terminals in both The Netherlands and Niedersachsen in Germany.

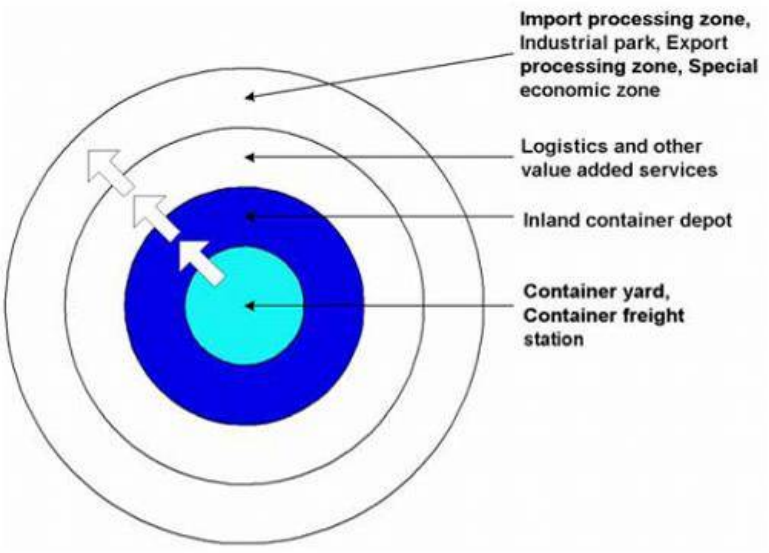
[4] Source: Best practices Hinterland Connections

[5] See the project Samenwerking Intermodale Knooppunten in Zuid-Nederland en België (SIKZNEB) (Cooperation Intermodal nodes in Southern Netherlands and Belgium – in Dutch)

2.3 Added value to the local economy

According to a research report made by the UN, the potential development of an inland intermodal facility into a dryport can additionally lead to an increased development in the nearby area[6]. By expanding the services available at an inland multimodal terminal, other services could grow from the dryport and in this way create an added value in the area, which is beneficiary for the region where the dryport is located.
The next figure shows an example of some of the functions that can grow from the establishment of a dryport (the two inner circles indicate the minimum level of services which should be available at a dryport).

Figure 2.5 Potential expansion of functions as a result of the development of an inland multimodal terminal into a dryport or of the establishment of a dryport from scratch (the two inner circles indicate the minimum level of services, which should be available in a dryport)



Source: Feasibility Study on the network operation of hinterland hubs (Dryport Concept) to improve and modernise ports' connections to the hinterland and to improve networking, FDT, 31-1-2007

Dryports offer a customs station destined to handle imports and exports. Therefore, they can become an important storage and distribution centre of goods to the whole country and to the international market as well. They represent a good option for companies that need both reliability and low cost in their commercial transactions. Dryports (inland customs clearance posts) can also be used to cut import costs and better manage the time of delivery and production. This offers benefits to manufacturers that rely on imported goods. Through warehousing goods can be cleared when needed, thus postponing the payment of import duties and taxes by the importer until the products are needed. Dryports also help in reducing the use of locations that are expensive.

[6] United Nations Economic and Social Council for Asia and the Pacific. Report published the 17th of August 2006. ESCAP. Found in FEASIBILITY STUDY ON THE NETWORK OPERATION OF HINTERLAND HUBS (DRYPORT CONCEPT) TO IMPROVE AND MODERNISE PORTS' CONNECTIONS TO THE HINTERLAND AND TO IMPROVE NETWORKING, FDT

2.4 Contribution to achieving (EU) transport policy objectives

The dryport concept is based on a seaport directly connected with inland intermodal terminals (the dryport), where goods in intermodal loading units can be turned in as if directly to the seaport. Between the seaport and the dryports relatively large goods in intermodal loading units can be turned in as if the terminal was positioned directly to the seaport. In such dryports large goods' flows can shift freight volumes from road to more energy efficient traffic modes that are less harmful to the environment. In addition a dryport can relieve the direct hinterland roads as well as seaport cities from some of the congestion, make goods handling more efficient and facilitate improved logistics solutions for shippers in the port's hinterland. The development of dryports is therefore an essential possibility to promote sustainability of goods transport in sea related transport chains.

From interviews it can be concluded that strengthening multi-modal solutions and avoiding traffic bottlenecks are the most important dryport advantages. This is furthermore emphasized by the fact that the share of road transport is increasing, and therefore will cause increased problems in the future. Developing the concept of dryports can be a possible solution to decrease congestion problems caused by heavy vehicles.

2.5 Conclusions

A dryport is a port situated in the hinterland servicing an industrial/commercial region connected with one or several ports with rail-, road- or inland water transport and is offering specialized services between the dryport and the overseas destinations. Normally the dryport is container and multimodal oriented and has all logistic services and facilities needed for shipping and forwarding agents in a port. A dryport is a concept rather than just a terminal. It can combine activities of multiple companies that all contribute to efficient freight handling. Different types of dryports exist.

Dryports can be on distant, mid-range or close-range. For all three types of dryports it can be concluded that they improve inland access, strengthen multi-modal solutions, avoid traffic bottlenecks and reduce pollution. A dryport should provide the following functions:

- Intermodal transportation and handling of goods;
- Information handling: the reliability of the goods flow is to a great extent dependent on the accuracy of the handling of information;
- Load unit handling (depot- and storage functions, including dangerous goods, reefer container);
- Customs (including customs storage area);
- Logistic value added services.

These are more or less the same services offered in the seaport. Further to this, a dryport should achieve the same security level as the sea port.

It can be concluded that seaport terminals see opportunities in investing in dryports when she has influence in the terminals, when there is enough loading potential for the seaport of Rotterdam and when there is a trimodal accessibility[7].

For the further development of a dryport in the Emmen-Coevorden region, the stakeholders in the region will need to define which services and infrastructure they want to integrate into the dryport concept.

[7] Best Practices Hinterlandverbindingen Havens

3 Freight flow analysis

3.1 Introduction

A dryport primarily deals with handling freight flows. As described in chapter 2, certain volumes will be required to be able to operate additional logistics services. Therefore in this chapter we will analyse the freight flows potentially relevant to a dryport in the Emmen-Coevorden region.

A literature review was first conducted, which learned that data availability on freight flows through south east Drenthe as well as from the seaports to the north eastern corridor are limited. Therefore within this study a freight flows analysis was conducted.

This freight flows analysis is an important basis for strategy development. From the literature review it has become clear that detailed data on current and future freight flows (tonnes transported, modal split, important OD-relations), which might be relevant for the region Emmen-Coevorden, is still missing. To gain a better understanding about these freight flows, we have analysed the characteristics of the freight flows on certain corridors which are believed to be relevant for the region.

In order to overcome these information gaps, an origin/destination analysis has been conducted.

In annex 4, detailed information on freight flows as well as on literature findings is included.

3.2 Freight flows analysis

In order to assess the potential volumes that a dryport in the south east of Drenthe can attract, a freight flows analysis has been conducted. This analysis investigates current freight flows:

- Going to and from SE Drenthe[8] (e.g. having SE Drenthe either as origin or as destination). These cargoes are captive to the region. Here we have looked at freight flows to/from SE Drenthe to:
  - The Dutch seaports Amsterdam and Rotterdam
  - Other regions in Drenthe (SW Drenthe and N Drenthe)

[8] In freight statistics, data are reported by COROP region, where the south east of Drenthe is one COROP area, covering both Emmen and Coevorden as well as smaller surrounding municipalities. Therefore in this chapter we refer to SE Drenthe rather than to Emmen-Coevorden only.

    - Other parts of North Netherlands (Groningen, Fryslân)
    - Rest of Netherlands
    - Germany, Poland, Russia, Denmark, Norway, Sweden, Finland
    - Other countries
- Going along corridors that potentially pass SE Drenthe. This can be freight flows from e.g. Dutch sea ports Rotterdam or Amsterdam to say Northern Germany or Scandinavia. For such flows various routes can be selected, and a route passing SE Drenthe is potentially one of them. The same (international) regions were selected as for the captive flows, because flows between the Dutch seaports to these northern European countries may potentially pass Emmen-Coevorden, while vice versa flow from German seaports to the Netherlands may also pass the dryport.

The data used for this freight flows analysis come from two sources:

- Dutch freight flow statistics from the CBS (national statistics agency). These provide detailed geographic data on the Netherlands origins and destinations (COROP or even more detailed), while on foreign origins and destinations, only country level data is available.
- German statistics provided by our partners (TCI), which provide a geographic breakdown within Germany as well as some geographic detail on Dutch destinations

Both data sources provide 2007 data for three modes of transport: road, rail and inland waterways (IWT). The German source also gives some detail on commodities concerned.

It is noted that freight flow data is presented in tons. In container transport, often the unit TEU (Twenty Foot equivalent Unit) is also used. However as statistical data on freight flow origins and destinations is provided in tons, and as we also include non-containerised flows (dry and liquid bulk, general cargo), the analysis is performed in tons.

3.2.1 Captive freight flows

Captive freight flows are flows that either originate in Drenthe, or have Drenthe as their final destination. Capturing these flows by the dryport facilities would be relatively easy, taken into account:

- Competition from other logistics terminals in or near Drenthe, and
- Direct delivery to final customers from origin or from further away located transhipment points

Road

In total, about 10 mln tons of cargoes departed from SE Drenthe, while some 7 million tons had SE Drenthe as their destination.
The next table indicates the main regions of origin/destination of these flows.

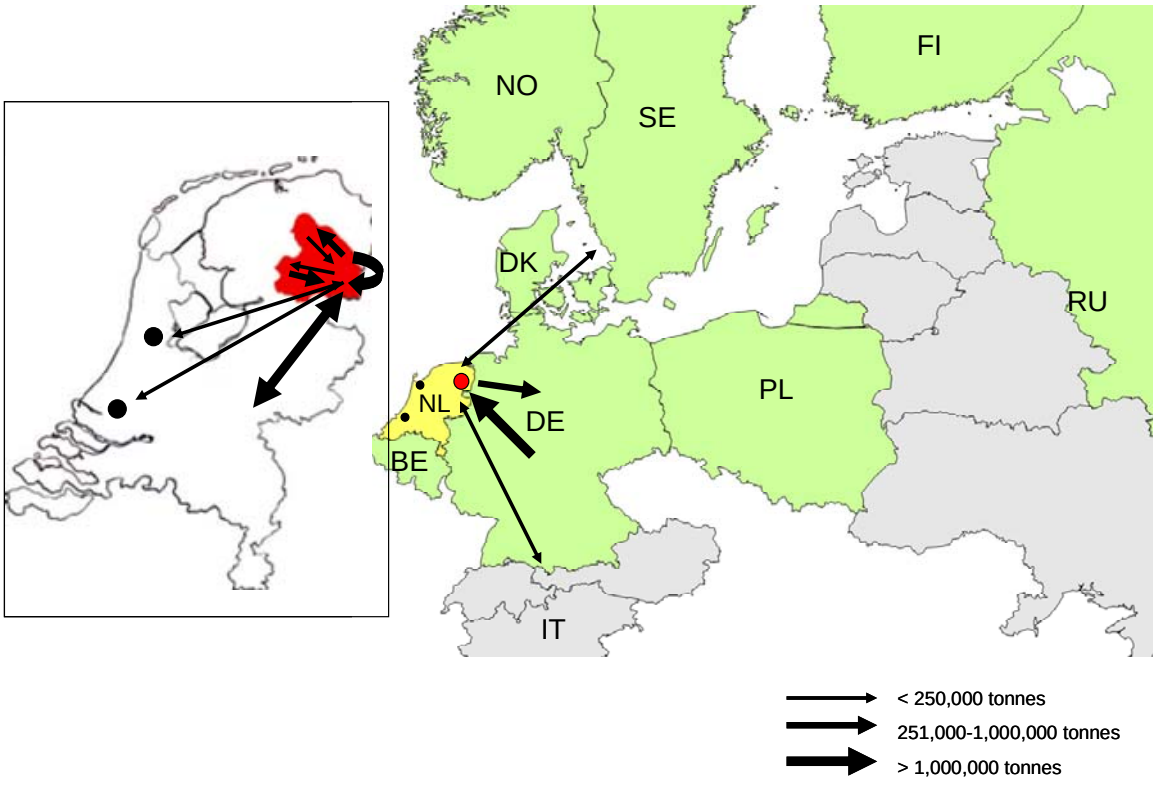
Table 3.1 Road freight to and from SE Drenthe (* 1000 tons) in 2006

From	To SE Drenthe	To	From SE Drenthe
N Drenthe	181	N Drenthe	795
SW Drenthe	447	SW Drenthe	211
IJmond	103	IJmond	182
Rijnmond	250	Rijnmond	181
Rest of NL	2,472	Rest of NL	4,981
Germany	1,077	Germany	448
Scandinavia	15	Scandinavia	41
Poland, Russia	0	Poland, Russia	0
Other	149	Other	229
Total	**4,694**	**Total**	**7,069**
SE-Drenthe internal	*2,211*		

Source: CBS publication files; processed by ECORYS

Table 3.1 clearly shows that the largest part of the road freight to and from SE Drenthe is destined for or originating from other parts of the Netherlands. While the seaport regions of Amsterdam (IJmond) and Rotterdam (Rijnmond) only capture around 5 percent together, more than half is destined for other parts of the Netherlands, while a substantial volume also concerns intra-regional flows within SE Drenthe. The map in the next figure also presents this geographically.

Figure 3.1 Road freight to and from SE Drenthe in 2006



Source of data: CBS publication files; processed by ECORYS

The majority thus goes to various parts of the Netherlands. Some regions with large import volumes from SE Drenthe are COROP region Oost-Groningen (1.1 million tons), Groningen city (2.0 million tons) and Harlingen (0.8 million tons). Vice versa, regions exporting flows to SE Drenthe are more varied, although Groningen city, COROP regions Oost-Groningen, SW Drenthe, Noord-Overijssel and Twente are important with more than 200,000 tons each.

Rail

Statistical data on rail freight are less geographically detailed than for road. Current data on rail freight to or from SE Drenthe indicates that there is a strong focus on rail to/from Rotterdam Rijnmond area, which is logical given the currently operated rail services to/from the tri-modal Euroterminal in Coevorden.

Table 3.2 Rail freight to/from SE Drenthe (* 1000 tons) in 2006

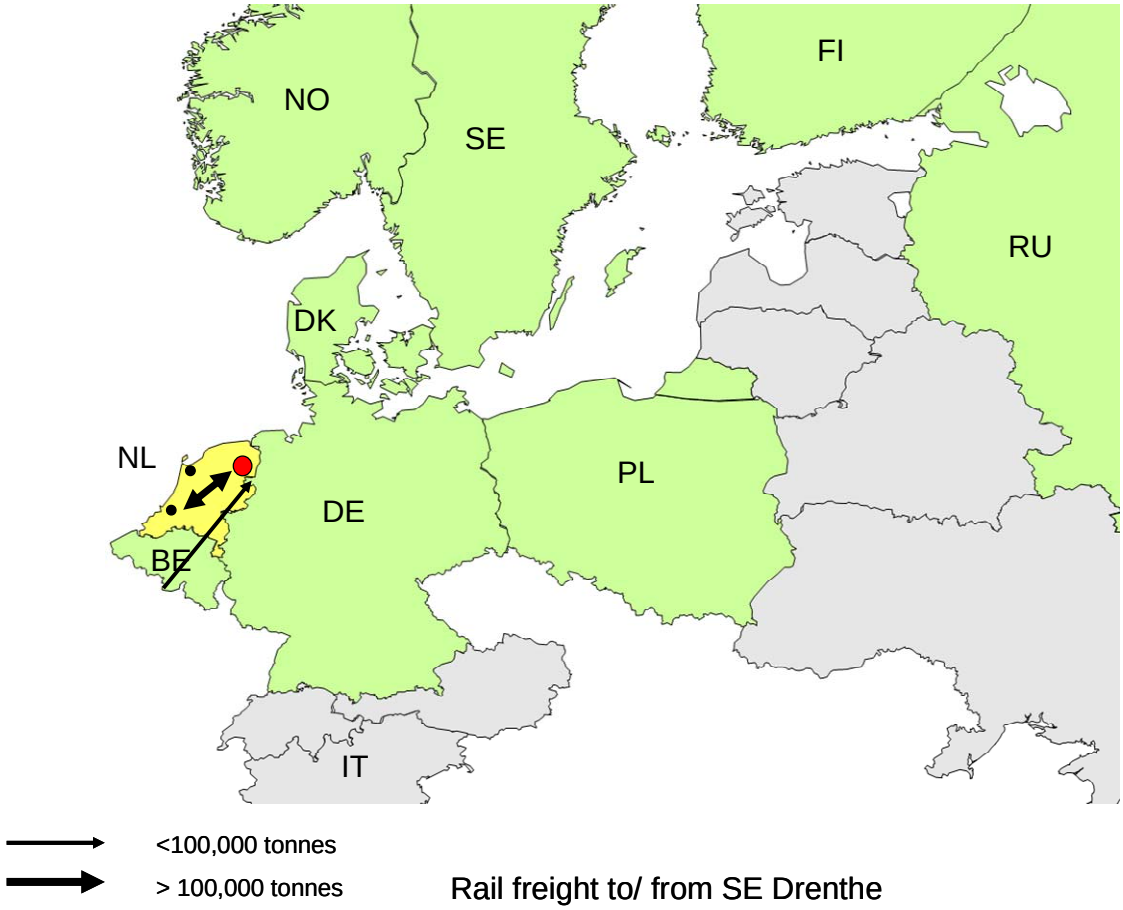
From	To SE Drenthe	To	From SE Drenthe
Rijnmond	118	Rijnmond	187
Other	46	Other	0
Total	**165**	**Total**	**187**

Source: CBS publication files; processed by ECORYS

Table 3.2 shows that rail freight to and from SE Drenthe is quite well balanced, with almost the same volume being shipped to SE Drenthe as vice versa. Exports are almost fully destined for Rotterdam Rijnmond, while imports also originate from other countries (France, Belgium). The main rail routes are geographically presented in figure 3.2.

It is remarked that the rail volume is much lower than would be expected, as the Bentheimer Eisenbahn is transporting about 1 million tons of rail freight from Coevorden into Germany each year. Possibly this can be explained by the fact that these flows have already passed customs and are considered German freight flows rather than freight flows originating in the Netherlands.

Figure 3.2 Rail freight to/from SE Drenthe in 2006



Source of data: CBS publication files; processed by ECORYS

Remarkably, the 'other' volumes to SE Drenthe come from Belgium and France, not from eastern countries. Again see the remark made with respect to the Bentheimer Eisenbahn.

IWT

Although the current terminal facilities in Coevorden also have water access, volumes transported to/from SE Drenthe by barge are relatively small compared to those shipped by road or rail.

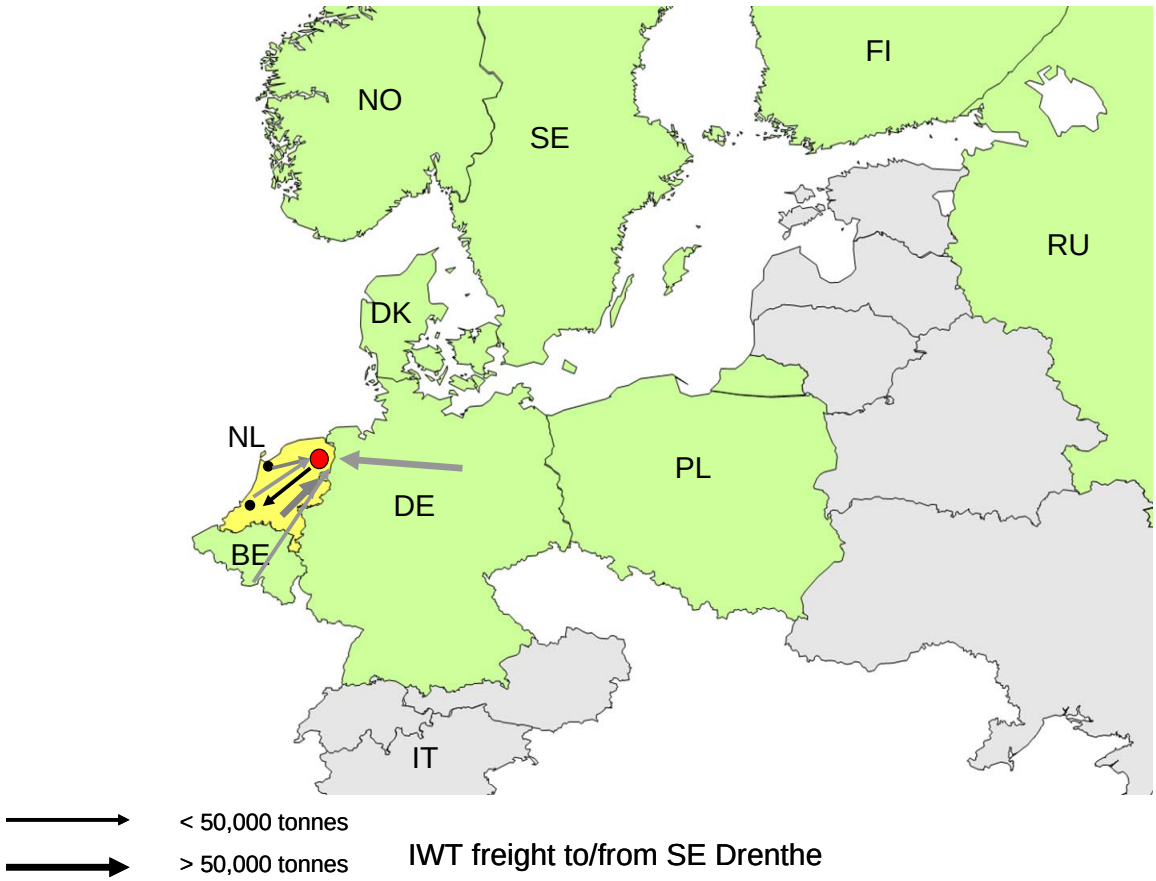
Table 3.3 IWT freight to/from SE Drenthe (* 1000 tons) in 2006

From	To SE Drenthe	To	From SE Drenthe
IJmond	1	IJmond	0
Rijnmond	1	Rijnmond	1
Rest of NL	23	Rest of NL	0
Germany	50	Germany	0
Other	1	Other	0
Total	**76**	**Total**	**1**

Source: CBS publication files; processed by ECORYS

Table 3.3 indicates that the IWT flows are small, but highly unbalanced: the volumes departing from SE Drenthe are almost zero, while a sound 76,000 tons is being shipped to SE Drenthe.

Figure 3.3 IWT freight to/from SE Drenthe in 2006



Source of data: CBS publication files; processed by ECORYS

Modal split

Comparing tables 1, 2 and 3 above with each other, clearly indicates that freight flows to/from SE Drenthe are dominated by road. On almost all routes, the share of road is close to 100%, 97% on average for all destinations. For freight flows between SE Drenthe and Rotterdam Rijnmond (and vice versa) however, rail has a strong position, capturing 51% towards Rotterdam and 32% towards SE Drenthe. IWT has marginal shares on all routes.

Commodities transported

The next table indicates the importance of the various commodity groups, distinguished by mode. Within road transport, the volumes of dry bulk are dominating (48% of all captive road transport). In rail the container segment is the largest with 53%, followed by chemicals with 45%. IWT concerns dry bulk mainly (81%).

Table 3.4 Captive freight flows by commodity (* 1000 tons)

	Road	Rail	IWT
Chemicals	2.214	160	11
Containers	324	187	0
Dry bulk	6.651	0	62
Liquid bulk	330	0	1
General cargo	4.455	5	3
Total	**13.974**	**352**	**77**

Source: CBS publication files; processed by ECORYS

The growth potential of each segment is to be considered in section 3.3.

Freight flows originating from regions within Germany

Data provided by TCI allow zooming into various origins within northern Germany to assess if a regional focus can be derived. Regions distinguished are:

- Hamburg
- Bremen
- Wilhelmshaven
- Rest of Northern Germany (Schleswig-Holstein, Niedersachsen)
- Rest of Germany

Regarding destinations, German statistics do not give a detailed breakdown within Drenthe but only provide Drenthe totals, together with data on flows to Emsland across the border as well as to the Northern Netherlands and rest of Netherlands.

Table 3.5 Total freight flows from Germany to the Netherlands in 2007 (* 1000 tons)

From / to	Emsland	Drenthe	North-NL	Rest NL	SW Europe
Hamburg	155	4	7	195	619
Bremen	354	12	23	691	1.800
Wilhelmshafen	41	5	8	120	22
North-Germany	5.877	428	672	10.164	6.826
Rest Germany	2.974	1.733	3.148	67.677	
Total	**9.401**	**2.183**	**3.857**	**78.846**	

Source: TCI

As can be seen from table 3.5, the role of the German ports of Hamburg, Bremen and Wilhelmshaven for freight flows to Drenthe is rather small. Much larger volumes are being shipped from other parts of Germany, with only some 20% from the northern part nearest to Drenthe.

When looking at the transport modes involved in shipping these flows, again the largest part is transported by road, even 100% for flows originating from the German seaports. On freight flows from other parts of Germany however, both rail and IWT provide their contribution. Especially cargoes from further away located German regions are shipped by rail (15%) and IWT (25%). This indicates the potential for these modes of transport on longer distances.

The road freight concerns bulk cargoes (almost half of all road freight arriving from Germany), general cargo (almost a quarter), containers (some 21 percent) and chemical products (less than 10 percent). The rail freight mainly consists of dry bulk cargoes, and so does IWT, although IWT also contributes substantially to container volumes.

Although the breakdown of modes varies among the commodities, the view described here is generally confirmed by data per mode and per commodity. In Annex 4 detailed tables are presented.

Conclusion on captive freight flows

From the above data analysis, it is concluded that more than 16 million tons of cargo are transported to and from SE Drenthe. Although part of this volume concerns internal flows, and another part will be delivered to customers directly, the dryport SE Drenthe should be able to serve a substantial share of this volume.
While road dominates these flows, especially on the longer distances rail and to a lesser extent IWT offer potential for serving the region. For a dryport capturing these cargoes is essential, as it will ensure commitment to use of the facility from the regional customers. For road transport it will be more difficult to attract flows to the dryport which are currently being delivered directly to the customers.

3.2.2 Non-captive freight flows

A second stage for developing the dryport will be to attract non-captive freight flows. These are cargoes not going to/from the Emmen-Coevorden region, but are probably passing the region along a corridor from for example sea ports in the Netherlands (Rotterdam, Amsterdam) to hinterland destinations in Northern Germany, Scandinavia or Poland. For the dryport it will be more difficult to capture part of these flows than it will be for flows destined for the own region, but on the other hand they are potentially relevant if the dryport is to be a hub on long distance corridors. However it may concern substantial volumes and therefore it is useful to investigate these.

Road

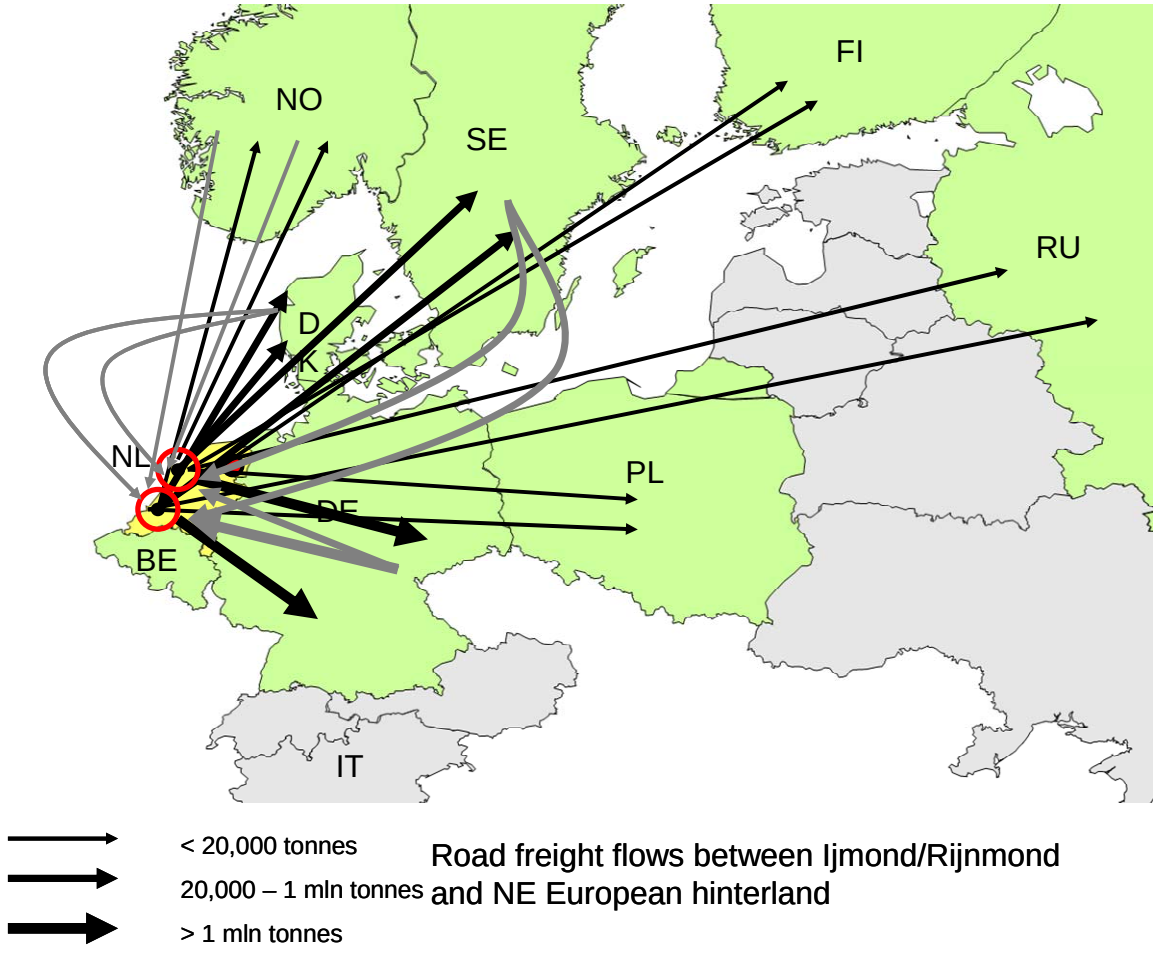
Table 3.6 presents road freight flows between the Dutch seaport areas IJmond (Amsterdam) and Rijnmond (Rotterdam) and countries to the east and north-east of the Emmen-Coevorden area.

Table 3.6 Road freight flows between IJmond/Rijnmond and NE European hinterland in 2006 (*1000 tons)

From	To IJmond	To Rijnmond	To	From IJmond	From Rijnmond
Germany	545	3.210	Germany	1.338	4.812
Denmark	13	18	Denmark	39	84
Norway	2	4	Norway	6	18
Sweden	24	42	Sweden	31	80
Finland	0	0	Finland	4	7
Poland	0	0	Poland	9	17
Russia	0	0	Russia	2	0
Other	0	0	Other	0	0
Total	**584**	**3.274**	**Total**	**1.429**	**5.019**

Total volume of road freight flows between Rotterdam/Amsterdam and these regions amounts to over 10 million tons. The data in table 3.6 clearly show that the further away from the Netherlands seaports, the smaller the volumes become. Germany captures already 96 percent of these flows. The Scandinavian countries cover the remaining 4 percent, while volumes to Poland and Russia are negligible. The next map shows the routes.

Figure 3.4 Road freight flows between IJmond/Rijnmond and NE European hinterland in 2006



Source of data: CBS publication files; processed by ECORYS

Rail

A similar table has been constructed for rail freight flows.

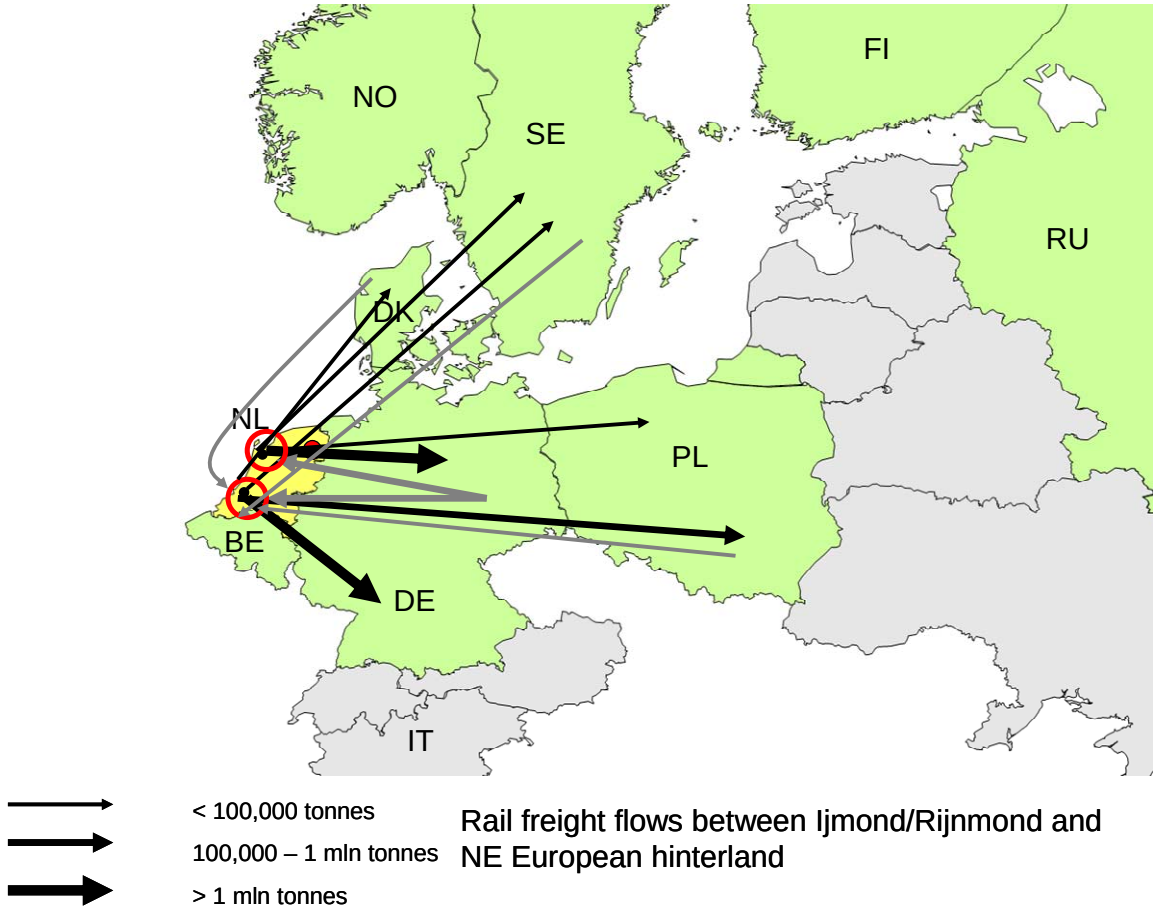
Table 3.7 Rail freight flows between IJmond/Rijnmond and NE European hinterland in 2006 (*1000 tons)

From	To IJmond	To Rijnmond	To	From IJmond	From Rijnmond
Germany	580	473	Germany	2.585	10.575
Denmark	0	1	Denmark	0	4
Norway	0	0	Norway	0	0
Sweden	0	3	Sweden	1	2
Finland	0	0	Finland	0	0
Poland	0	23	Poland	1	153
Russia	0	0	Russia	0	0
Other	0	0	Other	0	0
Total	**580**	**500**	**Total**	**2.587**	**10.734**

The volumes by rail between Rotterdam/Amsterdam and the countries on the Northeast of the Emmen-Coevorden region are even larger than those by road: more than 14 million tons are being shipped by rail. This is not in balance: only around 1 million tons are arriving from these countries to the Dutch ports, while more than 13 million tons are being exported eastwards.

Again Germany is the dominant destination, with 99 percent of the volumes originating in or destined for this country. Contrary to road, not Scandinavia but Poland is the second most important destination, be it at a marginal 1 percent of total volumes.

Figure 3.5 Rail freight flows between IJmond/Rijnmond and NE European hinterland in 2006



Source of data: CBS publication files; processed by ECORYS

IWT

For inland waterways, available Dutch statistics are more detailed, presenting German destinations by Bundesland instead of only at country level. In the analysis we have taken account of the northern German Bundesländer as well as all Bundesländer in the Eastern part of Germany.

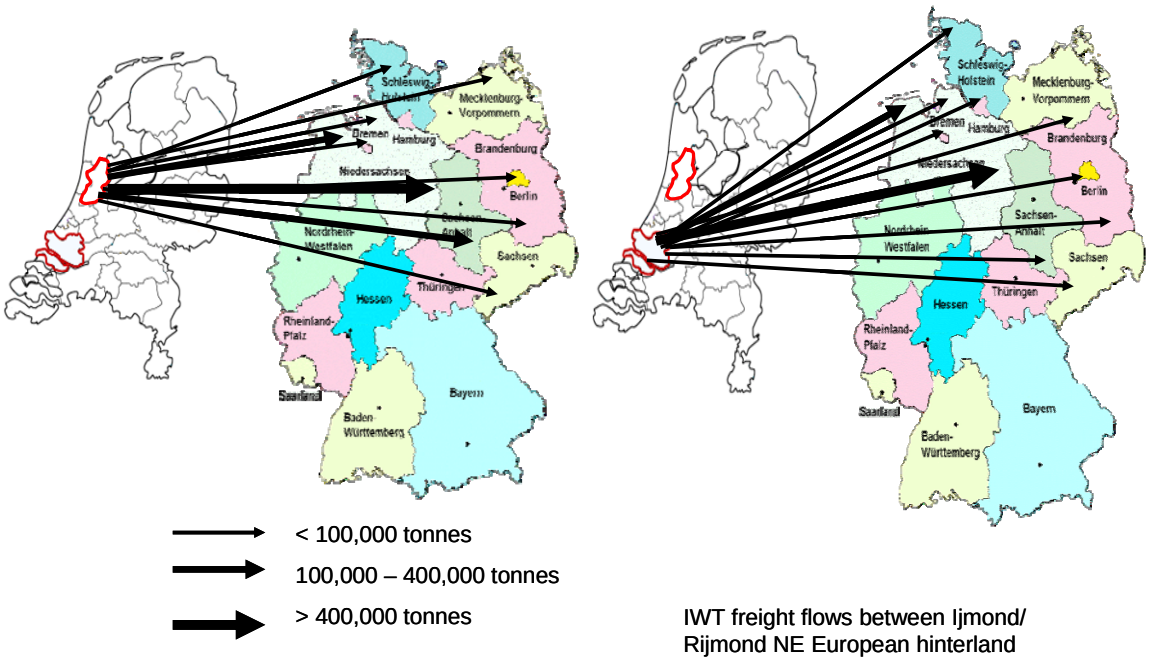
Table 3.8 IWT freight flows between IJmond/Rijnmond and NE European hinterland in 2006 (*1000 tons)

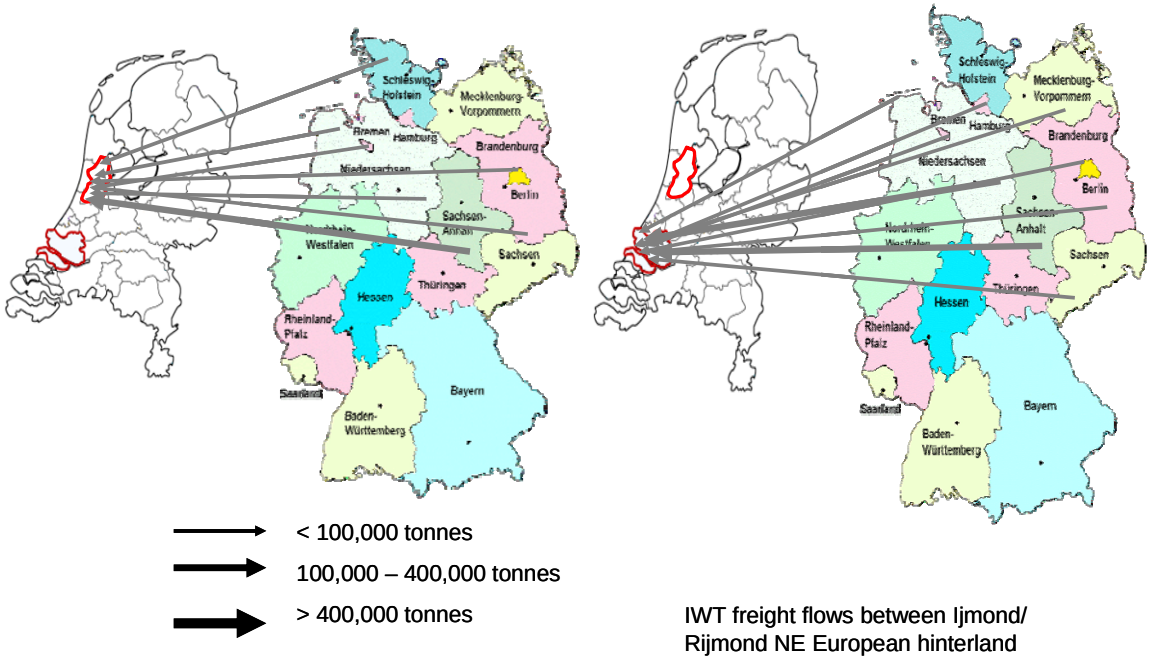
From	To IJmond	To Rijnmond	To	From IJmond	From Rijnmond
Schleswig-Holstein	2	0	Schleswig-Holstein	3	3
Hamburg	0	1	Hamburg	2	2
N Niedersachsen	0	0	N Niedersachsen	13	9
W Niedersachsen	151	201	W Niedersachsen	420	448
SE Niedersachsen	16	35	SE Niedersachsen	124	99
Bremen	6	4	Bremen	42	67
Berlin	6	2	Berlin	5	5
Mecklenburg-Vorpommern	0	3	Mecklenburg-Vorpommern	2	2
Brandenburg	2	3	Brandenburg	11	25
Sachsen-Anhalt	107	112	Sachsen-Anhalt	193	150
Sachsen	0	1	Sachsen	2	1
Other	0	1	Other	0	3
Total	**290**	**362**	**Total**	**817**	**814**

Volumes by IWT from Rotterdam/Amsterdam to Northern and Eastern Europe are rather modest with 2.3 million tons. This is 100 percent related to Germany, with only very marginal volumes to other NE European countries.

Within Germany, (Western) Niedersachsen is the most important region, followed by Sachsen-Anhalt. This goes for both directions. Main routes are presented in the next map.

Figure 3.6 IWT freight flows between IJmond/Rijnmond and NE European hinterland (top) and vice versa (bottom) in 2006





IWT freight flows between Ijmond/ Rijmond NE European hinterland

Source of data: CBS publication files; processed by ECORYS

Commodities transported

The mix of commodities transported on corridors potentially passing the Emmen-Coevorden area differs from those that are captive. Within road, containers and general cargo dominate, with 38% and 45% respectively. In both rail and IWT, the dominant commodity is dry bulk. In the next table, the breakdown by commodity is given.

Table 3.9 Volumes of non-captive flows per commodity and mode (*1000 tons)

	Road	Rail	IWT
Chemicals	1.150	580	326
Containers	4.096	604	0
Dry bulk	739	11.621	1.343
Liquid bulk	60	22	294
General cargo	4.860	1.573	322
Total	**10.905**	**14.400**	**2.285**

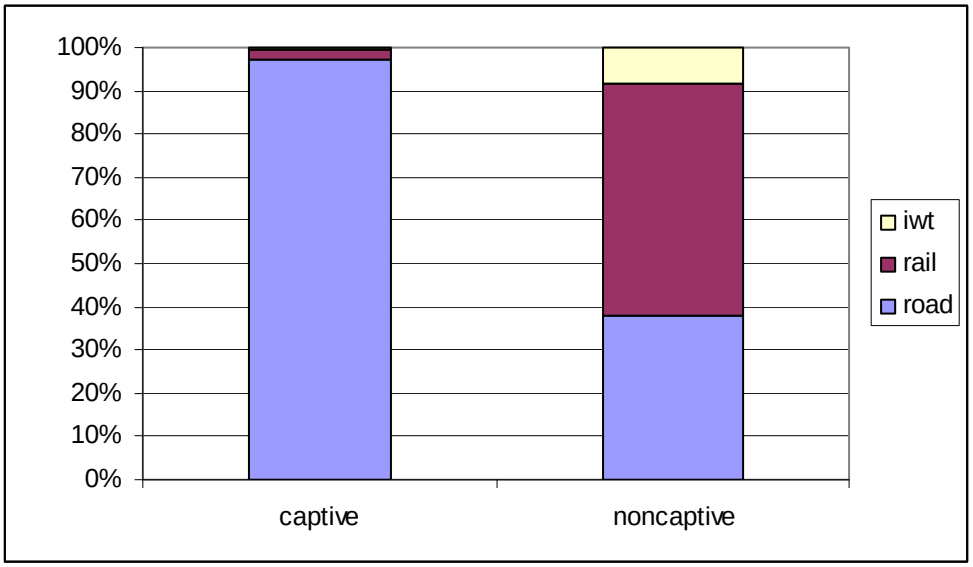
Freight flows originating in Germany

Vice versa, flows from the German seaports to regions in the Netherlands are relatively small (0.2 million tons from Hamburg, 0.7 million tons from Bremen), but from land-based sources in northern Germany, more than 10 million tons are being transported to the Netherlands, mainly the central and southern parts. The dryport Emmen-Coevorden is centrally located on this broad corridor, and might be able to serve part of these flows. As they are however scattered, and delivered mainly by road (88 percent), it will be rather difficult to attract these.

Modal split of non-captive flows

The modal split of non-captive flows is in favour of rail (53) and road (38%), leaving some 8% for IWT. This is much different from the split in captive flows, which is heavily dominated by road.

Figure 3.7 Modal split captive versus non-captive flows



Source of data: CBS publication files; processed by ECORYS

Conclusion on non-captive freight flows

For the non-captive freight flows, it is concluded that sea ports are important source regions. Hinterland destinations can be rather scattered, although it is clear that nearby located German Bundeslander are the most important regions. This provides an attractive basis for a dryport in Emmen-Coevorden.

Total non-captive volumes transported along the corridors analysed amount to some 27 million tons. It must be noted that this includes road and rail freight to all German destinations, also those not passing the northern part of the Netherlands. Therefore the actual potential for a Emmen-Coevorden dryport will be lower than this amount.

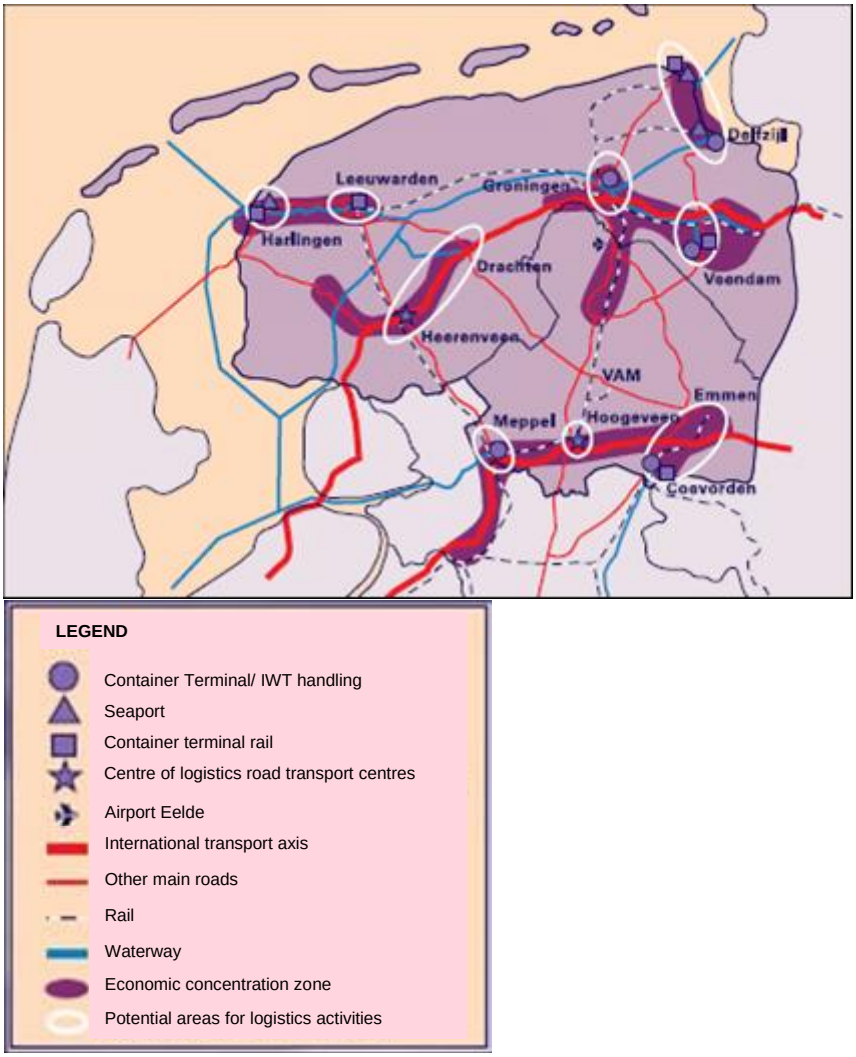
As s strategy, the dryport could choose to focus on one region first, as to create a basis from where further growth can be realised. This basis would clearly be Germany, the region of Niedersachsen in particular.

3.2.3 Inland ports

Inland ports are the sites where freight flows are often handled. The dryport is also such an inland port.

Other logistic nodes in the northern region of The Netherlands are shown in the next picture. Government policy is not to create more logistic nodes but to improve the quality of the existing network.

Figure 3.8 Logistic network in the northern region of The Netherlands



Source: Regiovisie goederenvervoer SNN (Regional vision freight transport, in Dutch)

3.3 Future freight flows

The above data concern current freight flows, based on 2006 and 2007 statistical data. In the future, likely these volumes will increase, due to economic growth in destination regions and in expansion of production sites in origin regions. In various policy documents of the Dutch government, estimates are included of expected growth in transport of goods by the various modes. In the policy document 'Nota Mobiliteit' of the Dutch Ministry of Transport a growth of 40-80% in freight transport is foreseen in the period until 2020.

Forecasted freight transport in The Netherlands

The next table and two figures show the developments as forecasted by the Dutch National Planning Agency (CPB).

Table 3.10 Development in freight transport in The Netherlands

	2002		2005			2020		2040		
			RC	SE	TM	GE	RC	SE	TM	GE
Port throughput	432	487	448	559	646	716	415	646	802	1148
Containers	66	92	123	160	175	222	144	290	287	542
	Billion tonne-kilometres on Dutch territory									
Road – total	49.1	55.2	54.4	68.1	70.6	83.5	54.1	83.0	88.9	124.6
Road – containers	3.1		5.1	6.4	7.0	8.8	6.0	11.5	11.4	20.5
IWT – total	42.1	43.1	39.9	48.3	55.0	59.9	36.5	53.0	65.1	82.8
IWT –containers	3.3		5.1	6.5	7.1	8.9	5.7	10.9	11.2	20.0
Rail – total	4.3	5.0	5.5	7.8	8.4	9.8	5.7	10.9	11.5	18.0
Rail – containers	1.4		2.4	3.7	3.7	5.1	2.9	6.6	6.3	12.4
Pipelines	4.1		13.7	15.4	16.6	19.1	11.0	9.3	15.5	21.1

Source: CPB Memorandum nr 172, December 2006 (in Dutch)

Above table shows that while growth of volumes between 2002 and 2005 have been substantial, the forecasted freight volumes handled in seaports and shipped on NL territory may decreases somewhat (in the RC scenario), or show growth up to a more than doubling of volumes. Especially the container volumes, indicated separately, will grow in all scenarios.

The credit crunch has resulted in a temporary economic downturn. This has affected transport activities as well. On the short term it has an impact but it is expected that on the long turn, forecasts do not need to be revised.

Future freight flows in the northern region of The Netherlands

The Dutch Ministry of Transport assumes that by 2020 freight transport in the northern region of The Netherlands will have increased with 48% (see table 3.11). The strongest increase takes place in road (49%) and inland water transport (60%).

Table 3.11 Freight flows in the northern region of The Netherlands (unchanged policy)

	2000 (mln ton/year)	2020 (mln ton/year)	Growth (%)
Road transport	80.4	120.0	49%
Inland shipping	15.6	25.0	60%
Sea shipping	3.8	4.3	12%
Rail	3.2	3.8	18%
Total	**103.0**	**153.0**	**48%**

Source: Regiovisie goederenvervoer SSN (Regional Freight transport vision, in Dutch)

3.4 Opinions of stakeholders

Interviews have been held with a number of stakeholders from both the Emmen-Coevorden region and from within the ports of Rotterdam and Amsterdam (see interview list in annex 2). The texts in this paragraph fully reflect opinions of these stakeholders unless otherwise stated.

It is noted that no deviations were found with regard to the geographic location of stakeholders, e.g. stakeholders from the seaports did not have opposite opinions from those based in the Emmen-Coevorden region.

Substantial volume required for multimodality…
In order to develop as a logistic hub or hot spot it is vital that sufficient mass of transport flows is generated in the region.

In order to be competitive or commercially viable, it is important for rail and inland waterway is to obtain critical mass. This means that, in order to make the use of inland waterway transport an attractive option, according to stakeholders the inland port of Coevorden should be accessible for ships with a minimum loading capacity of approximately 1,200 ton. ECORYS notices that as part of the quick win studies on inland waterways, a study was done suggesting a first step increase of the canal to 800-1000 tons capacity.

…as well as for frequency and connectivity…
This means for operating frequent rail services (which need a minimum 2-3x/month), much higher volumes are needed than for road transport. For Emmen alone, it is doubted whether sufficient volumes are available. There is rail, which can be expanded, but volumes of cargo need to be there as well. Competing with Coevorden for cargoes will not help the region as a whole, but joining forces would be a strong case to create the volumes required. An alternative option could arise if a large company with sufficient own volume, located along the railway line, may use movable sides wagons. Then it becomes a dedicated train. The ‘coloured trains’ of the past are not used anymore. ECORYS notices that current frequencies are higher than 2/3x per month, which indicates that apparently some stakeholders are not aware of this.

For Coevorden there is no doubt on the critical mass: this is certainly available. Especially the factors of having cross-border connections, a new terminal and existing rail + expansion possibilities of rail are to be mentioned.

…which requires coordination for bundling of flows…
It’s important to have a very good understanding of the logistic chains of shippers. Some coordination between transhipment centres (Emmen, Coevorden, Meppel, Veendam) would be necessary to generate this mass (avoid too much segmentation). The presence of logistic service providers in Emmen-Coevorden that also operate from different terminals can help expand the network and coordinate freight flows in order to generate sufficient volumes.

On example given is the concept of “extended gates” used amongst others by ECT.

The extended gates are inland ports/trade ports that maintain high frequent connections with the ECT in Rotterdam. ECT operates (or participates in) inland terminals with multimodal facilities (rail, barge) in Venlo (in the southeast of the Netherlands, near the German border), Duisburg-DeCeTe (Germany) and Willebroek (Belgium) and recently started a co-operation with CTVrede - Steinweg in Amsterdam. Also it started in Moerdijk.

By creating an ‘extended gate’ at inland terminals, containers can be transhipped directly by barge from the Maasvlakte to and from the hinterland. In the ‘extended gate’ concept, containers are barged directly from the sea-going vessel to and from inland terminal under responsibility and the customs license of ECT. After the customs clearance at the inland terminal the containers are transported by truck, barge or train to their final destination. Export boxes can be delivered at the inland terminal as well and are virtually loaded on board of the sea-going vessel at that moment thanks to the proper ICT-connections. The new co-operation enables the inland terminal to utilise the capacity at the marine terminal in the most efficient way and diminishes the pressure on the motorway capacity.

The inland terminals are in constant contact with the ECT terminals in Rotterdam. The issuing and processing of orders, invoicing and customer reports all take place directly from ECT's computer system.

Organisationally, the port can also be involved. This is done in Hamburg. Terminal company HHL has taken shares in hinterland terminals, which also implies that freight flows are tied to these terminals. Havenbedrijf Rotterdam is now considering this option. Regional cargo flows could benefit from increased services levels. Concerns about shareholder influence may not be necessary, see RSC which is owned by DB but acts as an independent company.

…as well as to convince shippers

Also in other logistic hubs logistic service providers try to bundle regional freight flows. This requires a good knowledge of the freight flows of companies (shippers) operating in the region. Companies have very specific demands that can be hard to meet. For example, for larger companies (like Teijin and DSM) there seems to be no use in combining their flows with those of other companies as their transport flows are substantial enough. Combining these with others might bring only the risk of extra complications.

3.5 Conclusions

Current freight flows

Two categories can be distinguished:

- Captive freight flows, originating in, or having their destination in SE Drenthe
- Non-captive freight flows, transported from
  - Dutch seaports to the Eastern and Northern hinterland, potentially passing Emmen-Coevorden
  - German seaports to the Netherlands, potentially passing Emmen-Coevorden.

From the analysis the following can be concluded:

- Flows to/from SE Drenthe are dominated by road transport. Main origin/destination regions are located within the Netherlands, particularly in the north, being neighbouring regions
- Rail transport is almost fully covered by flows between Rijnmond/IJmond and SE Drenthe.

- IWT flows hardly go to the seaports, but are between SE Drenthe and other parts of the Netherlands as well as N Germany.

For the non-captive flows, clearly the majority goes between the seaports of Rotterdam and Amsterdam, and the German hinterland. The modal split is much more in favour of rail and IWT than that of the captive flows.

Volumes to Scandinavian countries are very marginal and make up less than 1 percent of all freight flows, both captive and non-captive. Any strategy for development would therefore either need to focus on the main flows to (northern) Germany, or put much more marketing on Scandinavia to increase volumes. However the region will then face competition from short sea shipping on this corridor, which is not a flow easily shifted to land modes passing SE Drenthe.

Finally it is relevant to note that for several corridors, there is an imbalance in flows: while trucks or trains can be fully loaded in one direction, the volumes available for return are much smaller, thus making the route less profitable.

Future freight flows

Developments in the transport of goods in The Netherlands until the year 2040 are:

- Freight transport will further increase and can even double;
- Strong growth in container transport, with 3- to 6-fold volumes in 2040 compared to 2005;
- Limited growth in bulk transport;
- Continued trend to scale increases in freight transport;
- The market share of road and rail in the total freight transport increases at the cost of inland shipping which loses market due to limited growth in bulk transport

The Dutch Ministry of Transport assumes that by 2020 freight transport in the northern region of The Netherlands will have increased with 48%. The strongest increase takes place in road and inland water transport. Here also the growth in the transport of containers is strong.

4 Infrastructure and services

4.1 Introduction

This chapter describes the current road, rail and inland waterway infrastructure network and services that connect the region with other (national and international) regions, and bottlenecks that exist therein. The information provided is based on desk research.
A number of interviews has been held with major stakeholders (shippers, logistics service providers, transport operators, see annex 2 for names of companies and interviewees) to have their opinion and ideas on measures required for the dryport ambitions of Emmen-Coevorden. Feedback was asked on a number of topics (i.e. services provided in the region, accessibility, innovations, available knowledge). This chapter gives an impression of the opinions and ideas received from the interviewees.

4.2 Road Infrastructure

Road

The most important roads for (freight) transport for the NOA[9] are the international transport axis E22 through the A6/A7 (Randstad-Groningen-Germany), E233 through the A28/A37[10] (Randstad-Emmen-Germany), and the A28 (Zwolle – Groningen). For Coevorden and Emmen the N34 is an important road.

The accessibility of the northern part of The Netherlands by road is relatively good. Bottlenecks exist on the A28 (Zwolle-Meppel) due to capacity problems, the A7, the ring road south of Groningen and the N33. For the Emmen-Coevorden region the problems on the A28 are also relevant as well as capacity problems on the N34 and N48, and the connection between the A28 and A32 (Meppel-Zuid).

In order to tackle these problems the following actions will be taken:

- Increase of the capacity of the A28 (Meppel – Zwolle – Groningen)
- Increase capacity of the N34 (to a 2x1 highway)
- Preparation to double the N33 (to a 2x2 highway)
- Reconstruction of the junction Assen-Zuid (A28/N33)
- Connection between A32/28 (junction Lankhorst)
- Improve the quality and safety of the road Veendam-Stadskanaal (N366) and Ter Apel-Emmen (N391)

[9] NOA = Noordelijke Ontwikkelings As (Northern Development Axis)
[10] This road has recently been upgraded to a highway

After the execution of these plans, the accessibility by road of the northern part of the Netherlands and the Emmen-Coevorden region will remain to be relatively good. The recent upgrading of the A37 has improved the east-west connection (Randstad-Zwolle-Emmen-Coevorden - Bremen-Hamburg and Scandinavia).

For both Coevorden and Emmen the N34 is an important road as well as the A37, a highway that connects both cities with Germany. As previously mentioned, the recent upgrading of the A37 has improved the east-west connection (Randstad-Zwolle-Emmen-Coevorden - Bremen-Hamburg and Scandinavia). This road is also an important road for the NOA. Infrastructure outside Emmen-Coevorden, which is essential for the NOA function of the region, concerns the doubling of the E233 between Meppen (A31) and Cloppenburg (A1). This East-West corridor infrastructure is part of the German road plan. The 'Emsachse', the North-South corridor which is located very close to SE-Drenthe and connects the North-West of Niedersachsen with the Ruhr area, is currently being developed and probably will be developed as a toll road, which would benefit reliability (no congestion).
Also improving the accessibility of Bremen/Hamburg is high on the German political agenda. Construction of the first parts of the planned Küstenautobahn (A22) north of Hamburg and Bremen has recently started[11] and might play a role in connecting the Emmen-Coevorden region to Scandinavia.

Figure 4.1 The A31 in Germany

Interviews with various stakeholders (shippers, logistic service providers) in the region widely appreciated the high accessibility for road transport in the region. The roads in the region are largely free of congestion and offer good connections in all directions.

[11] Strategische agenda Noord-Nederland (Strategic agenda Northern Netherlands)

It is agreed upon that, the region Emmen-Coevorden is well positioned to potentially serve as a regional transhipment centre for Northern Netherlands and Germany (Wilhelmshaven), but so are other places like Veendam and Meppel. There is a general agreement amongst the companies interviewed that there is a rather level playing field between those transport nodes in the Northern parts of the Netherlands that offer multimodal transport connections in the hinterland of the major ports.

4.3 Railway infrastructure

Rail Network

The most important rail infrastructure which connects the region with other regions, are:

- Meppel-Zwolle to the rest of the Netherlands
- Meppel-Hoogeveen-Assen-Groningen to the port of Delfzijl/Eemshaven
- Coevorden to Rheine (Bentheimer Eisenbahn) and the rest of Germany and beyond
- Zwolle/Almelo – Coevorden – Emmen

Construction of the new Hanzelijn (between Zwolle and Lelystad) started in 2007 and will be finalised by the end of 2012[12]. A rail study on the link Zwolle-Meppen conducted by Buck and others[13] concluded that, at least until 2020, new rail connections are not necessary in the northern region of The Netherlands. After 2020 the rail connections Emmen-Meppen (Germany) and Emmen-Groningen offer possibilities. In the short term only the railway Zwolle-Emmen needs to be upgraded[14] since the capacity for public and freight transport will become insufficient due to expected growth in transport volumes.

With regard to rail developments authorities are looking at[15]:

- Increasing the capacity of the Bentheimer Eisenbahn;
- Increasing the use of the railway between Coevorden/Emmen and Zwolle/Twente;
- Improving the railway between Zwolle and Emmen for freight transport (additional line up track near Ommen);
- Removing bottlenecks in the capacity and quality of the railway between Coevorden and Germany;
- Increasing capacity/frequency between Zwolle and Groningen.

The European rail liberalisation and harmonisation has simplified cross border rail freight transport, which benefits the use of foreign trains to and from the Euroterminal, saving time of changing locs or train crew. This might be an advantage over other border crossings.

Also feasibility studies are conducted on the creation of railway links between Groningen-Veendam-Emmen and Emmen-Meppen (Germany).

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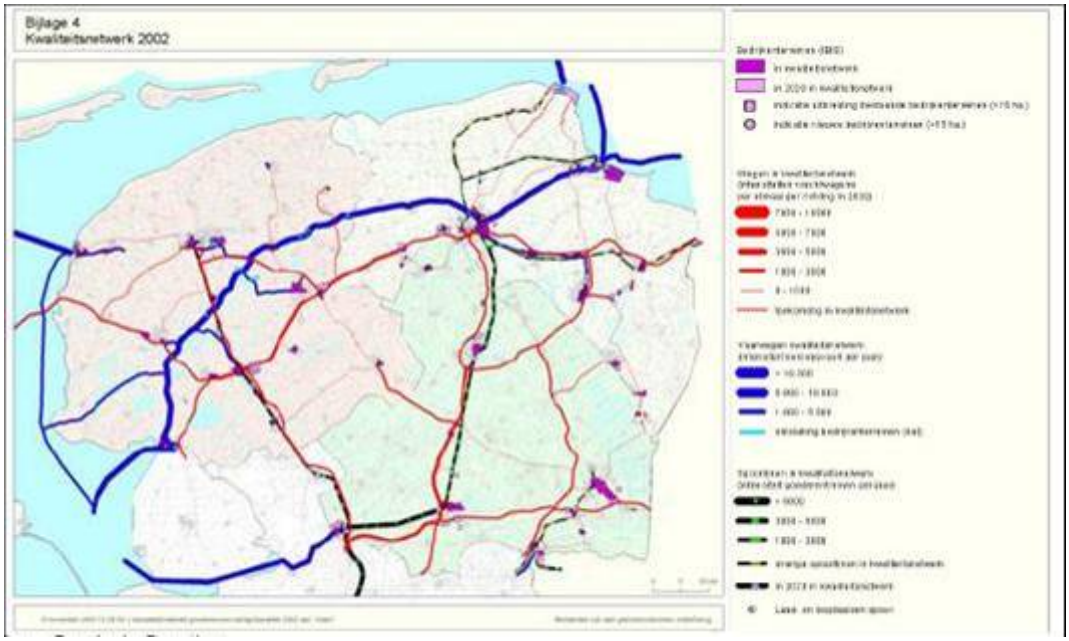
12 Source: www.prorail.nl

13 Source: Railvisie 2020 Zwolle-Meppen, Buck Consultants, Holland Railconsult, NWP Planungsgesellschaft, Nijmegen juni 2000. This study may be outdated but no new information was found on the subject.

14 This is also mentioned in the Netwerkanalyse Zuid-Drenthe.

15 Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe (Network analysis fairways and inland ports Drenthe).

Figure 4.2 Main road and rail infrastructure in Drenthe



Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe (Network analysis fairways and inland ports Drenthe)

Rail terminal in Coevorden and accessibility to Emmen

There is a good rail connection in Coevorden. Nevertheless various shippers in the region use Veendam instead of Coevorden for rail transport to the port of Rotterdam. This largely depends on the logistics services provider used by the shippers.

Coevorden is the only place in The Netherlands with a direct connection to the German railroad network: the Bentheimer Eisenbahn (Rheine-Coevorden). It is part of a European network of Kombiverkehr through which Coevorden is directly connected with more than 20 European destinations, and indirectly through its network a tenfold of this. The Euroterminal has contacts with the port of Lübeck to open up the existing rail link as a means to ship transports to NE Germany and Scandinavia. In 2000 around 200.000 tonnes of goods to and from the Euroterminal were transported via the Bentheimer Eisenbahn. Currently volumes are around 1 million tonnes. The line is said to have a capacity of around 2 million tonnes/year[16]. At the Euroterminal in Coevorden some 450.000-600.000 tons are loaded/unloaded (which is approximately 40.000-50.000 TEU). Every day at least 2 trains depart to Bentheim and at least one train arrives in Coevorden. It is expected that in 2020 full capacity of the rail track in Germany will be reached, and the Dutch side will suffer capacity shortages[17]. Besides the Bentheimer Eisenbahn the rail track Zwolle-Emmen is crucial for the Europark[18]. This rail track connects both Emmen and Coevorden with the (inter)national railway network. As previously mentioned the capacity of this rail track needs to be expanded.

[16] Source: Railvisie 2020 Zwolle-Meppen, Buck Consultants, Holland Railconsult, NWP Planungsgesellschaft, Nijmegen juni 2000 (Railvision 2020).

[17] Source: Netwerkanalyse Zuid Drenthe (Network analysis South Drenthe).

[18] Source: Netwerkanalyse Zuid-Drenthe (Network analysis South Drenthe).

A remark to be made is that the rail terminal in Coevorden has a track length of 600m (equalling a 80 TEU train), which deviates from the European 'standard' of 700m tracks (94 TEU).

Links to the German rail network are considered a "plus", but various freight forwarding agents also use the railway connection via Rotterdam to reach Germany. The possibility of using the Bentheimer Eisenbahn to link to the German rail network is not widely known. Issues like time schedules (frequency, travel times etc.) and other commercial aspects like tariffs and other conditions appear to be either less known or unfavourable compared to the services via Rotterdam.

One action that is suggested is to carry out a more in depth analysis of why the Bentheimer Eisenbahn is not used more frequently.

The Emmtec park in Emmen is connected by the rail track Emmen-Zwolle and Emmen Almelo. The Emmtec park is indirectly connected to the Bentheimer Eisenbahn via the Euroterminal. The rail track on the Emmtec park is used by DSM Engineering Plastics Emmen BV and DSM Advanced Polymers BV. Transport services are performed by Railion. Railion drives one train per day (in the morning) from Almelo to the Emmtec park. This train leaves the park in the evening. If necessary wagons for Coevorden (Europark) can be added. If needed more freight rail services could be offered since there is enough capacity.

From the interviews held with relevant stakeholders, it appears that the fact that Emmen is also connected by rail for freight transport is not widely known amongst shippers and logistic service providers. Also the viability of two rail terminals in the region is questioned by logistic service providers. It appears to them that the freight flows in the region are too little to operate two viable railway connections on a regular schedule.

Further stakeholders that have been interviewed indicate that there is scope for improvement for freight transport using the rail connection between Rotterdam and Coevorden/Emmen. Because the rail bottleneck Utrecht needs to be avoided, the number of commercial stops on this rail connection is limited[19]. In step 3 on freight flow analysis, the importance of rail volumes between Emmen-Coevorden and Rotterdam were shown. It is noted that the available budgets for infrastructure in the Northern Netherlands offer opportunity for things like rail track adjustments between Coevorden and Emmen.

Generally speaking some of the stakeholders that have been interviewed have indicated that the intermodal network within the EU is not well enough developed, preventing further expansion of intermodal flows using rail. Nevertheless, creating a well-functioning link to a large intermodal node in the German network, like Duisburg would be considered as strengthening the position in the region as a logistical hub.
Duisburg is one of the European hubs of container trains. If a terminal can offer a high frequency to Duisburg, it ensures through this hub a substantial number of connecting options, which would add to the competitive position of the terminal in Emmen-Coevorden. This concept is applied by many regions (e.g. Antwerp, Cologne). It offers

[19] Source: Netwerkanalyse Zuid-Drenthe (Network analysis South Drenthe).

the possibility to provide good transit times to companies through the high frequency. It is noted that the development of this connection is already being considered by Kombiverkehr and the Bentheimer Eisenbahn. It could not only benefit South East Drenthe but also the port of Rotterdam.

4.4 Inland waterways

Inland waterways and ports

Freight transport by inland waterways is an important link in multimodal transport. Meppel, Groningen – Assen and Emmen – Coevorden are important links between the international, interregional and regional movements. The waterways Meppel - Ramspol and Almelo – Coevorden are important for the economic development of Drenthe. The ports of Meppel and Coevorden are important points in the transhipment of goods between the north of The Netherlands, Germany and the Randstad[20].

Meppel is by far the largest inland port in Drenthe. In the inland ports of Coevorden and Emmen transported volumes are much lower (see table below). In a report regarding the economic importance of inland ports[21], the port of Meppel is classified as a large multifunctional inland port (transhipment > 100.000 tonnes) with both a national and an international function.

Table 4.1 Most important cities in the North of The Netherlands based on their transhipment volume in 2003 and 2006

Municipality	Throughput inland shipping 2003 (*1000 tons)	Throughput inland shipping 2006 (*1000 tons)
Meppel	1,466	1,642
Coevorden	86	72
Hoogeveen	110	40
Emmen	-	23
Assen	34	37

Source: CBS. Taken from Netwerkanalyse vaarwegen en binnenhavens Drenthe. Data Emmen 2000 and 2005.

[20] Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe (Network analysis Fairways and inland ports Drenthe).
[21] Blue Ports: knooppunten voor de regionale economie, TNO.

Figure 4.3 Inland waterways in the province Drenthe

Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe (Network analysis fairways and inland ports Drenthe)

The Meppelerdiep is the most important inland waterways of the province Drenthe since it is connected with the port of Meppel. Meppel is the only inland port in Drenthe that is accessible for vessels up to 2.000 tonnes.

Table 4.2 Characteristics of the inland waterways in the Provence Drenthe

Fairway	Fairway class	Water depth (m)
Meppelerdiep	V*	2.50-3.25
Coevorden – Vechtkanaal	II	1.90-2.50
Stieltjeskanaal	II	1.90
Hoogeveensevaart	II	2.20-2.50
Noord-Willemskanaal	II	1.90-2.50

* not the whole Meppelerdiep

Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe (Network analysis fairways and inland ports Drenthe, in Dutch)

Besides the rail terminal, Coevorden also has a waterway terminal. Both are part of the 'Regionaal Overslag Centrum' (ROC) of Europark. The fairway connected to the port of Coevorden/Europark is accessible for vessels up to approximately 600 tonnes (measuring length of 55 m, width of 6,6 m and draught of 2,5 m); the port itself can handle vessels up to 1.000 tonnes (amounts transported by inland shipping in Coevorden are however small). The Euroterminal on the Europark currently transhipps a volume of 1 million tonnes/year (road, rail and water). The maximum capacity is 2,5 million tonnes (after the expansion); in 2020 around 2 million tonnes is expected[22].

From interviews with shippers and logistic service providers it becomes clear that the inland waterway connection to Coevorden is currently not developed well enough to be truly competing with rail and road transport. Inland waterway connections leading up to Coevorden need to be improved to make it accessible for larger ships, in order to offer tri-modality. Also, in order for inland waterway transport to be competitive, the barges need to be of a sufficient size according to the stakeholders. In this respect an indication of a minimum loading capacity of some 1200-1500 tonnes was mentioned.

Various companies interviewed stated that the use of the inland port is still "somewhat theoretical". It cannot be reached by larger vessels and there are insufficient facilities (cranes etc.) to unload containers. The inland ports of Meppel or Almelo would be the closest options for the moment. One example of the fact that the possibility of using inland waterways to reach Coevorden is not really being considered by some transport operators is the fact that it is sometimes thought that Coevorden can be reached best by barge via Meppel instead of using the Almelo-Coevorden canal.

Company Nijhof Wassink has conducted a successful pilot project on the Canal Almelo-Coevorden with 32TEU barges to and from the Euroterminal (see article in the box below).

[22] Source: Netwerkanalyse Zuid Drenthe.

Taken from Nieuwsblad Transport of 3 July 2009

Nijhof Wassink is pioneering in Coevorden

Transport company Nijhof Wassink (NW) is going to start up an inland waterway terminal at the Europark Coevorden-Emlichheim. This is located in the east, partly in the Netherlands and partly in Germany, at some 250 kilometres from the Maasvlakte container terminals in Rotterdam. The company has performed a successful test of sailing a vessel combination transporting 36TEU on the Canal from Almelo to Coevorden and has applied for a license from the fairway authorities for operating a regular service.

Trimodal terminal

NW has the availability of an area of five hectares along a 300 meter quay Mobile cranes have been ordered. The site furthermore contains three storage sheds and some 45 silo's for granulates. Europark is also the start/end point of the Bentheimer Eisenbahn, a private railway line of 76 kilometres to Gronau, where it is connected to the German main railway network.

In order to improve inland waterway transport in Coevorden it is necessary to upgrade the canal Almelo-Coevorden, as well as the facilities to (un)load containers. Another important issue is to more widely promote the possibility of using inland port of Coevorden amongst transport operators and shipping companies.

For the region the following bottlenecks regards accessibility by inland shipping have been identified:

- The lock in the Meppelerdiep: on average the Meppelerdiep lock is closed for 16 days/year resulting in the fact that Meppel cannot be reached on those days;
- The depth of the Hoogeveense vaart is limited by the Rogatlock (2,2 m);
- The depth of inland port Coevorden is limited on some places;
- Part of the inland waterway in Emmen needs to be deepened;
- Canal Almelo-Coevorden (capacity needs to be expanded).

In order to solve the problems the following actions have been identified[23]:

- Bottleneck in the Meppelerdiep will be removed (the Meppelerdiep lock)
- Inland waterway IJsselmeer-Meppel will be upgraded to class V
- Increase the depth of inland port Coevorden near the Bentheimer rail bridge
- Upgrading of the canal Almelo-Coevorden[24]

4.5 Role of logistic service providers in the region

A great variety of services is required by shippers in the region…

In chapter two it was already indicated what the typical services are that are offered in a dryport. Based on interviews with shippers it can be concluded that the services required by the shippers vary greatly. In general all the typical services described in chapter two

[23] Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe

[24] Upgrading of the canal to 700 tons is expected to be finished by 2014. By January 2010 linked barges with containers are allowed, which improves accessibility for container barges between the ports of Rotterdam/Amsterdam and Coevorden.

should be offered, including maintenance, repairs and cleaning; empty; depot short-term and long-term storage of full containers.

… for whom quality and price is more important than the location of the service provider

Most shippers in the region hire one or more logistic providers to take care of all issues concerning logistics. Contracts with logistic service providers are tendered once every few years, with timely delivery and price being the main criteria. The most important quality criterion is the reliability of transport services. This is even more important than speed. From interviews with shippers and logistic service providers, (the possibility for) offering high frequent services is a good strategy to increase reliability. Also, offering multimodal transport connections improves the reliability.

The location of the logistic service provider is less important for shippers. The majority of the companies interviewed do not make use of transport operators that are located in the Emmen-Coevorden region. Also all kinds of other services are not necessarily provided in very close proximity of the shippers. For example, logistics service providers in Veendam (can) offer storage facilities to companies in Emmen and Coevorden. Also it was noted by the Port of Amsterdam that Emmen-Coevorden is not a very suitable place for them to stack containers. It's too far from the port to transport empty containers to the port and there are not enough (large) users to fill the containers locally.

The kind of Value Added Logistics that are offered and where these activities are executed, varies widely and largely depends on the both the shipper and the logistic service provider. In some cases goods are just transported to customers, like wholesale agents, and they will carry out any VAL. In other cases (for example EMMTEC) the logistic service provider take care of a whole range of value added logistics, like packaging, repackaging, assembly and labelling.
In this respect, gathering an understanding of logical chains of shippers becomes increasingly important.

Customs procedures are often mentioned as an issue of special concern for shippers for which sometimes specialist agencies are hired. Some companies even have staff of these agencies in-house. The availability of this type of expertise locally is an appreciated asset.

> One interesting comment raised by companies interviewed was that they do not look very often across the border beyond the Europark for logistics service providers. The amount of service providers on the German site of the border appears to be limited, which could offer an opportunity for Dutch logistic service providers to serve shippers on the German side of the border via Emmen-Coevorden.

Having a number of logistic service providers located in the region does help to promote the region as a logistic hub. As an example, Venlo is part of a larger logistic region called a Trade port. The Trade Port has proven to be a successful business concept. There are many renowned logistic service providers active in the vicinity of each other. Added value can be generated (cluster effects) once these companies located in each others vicinity start to exchange knowledge and closer cooperation. However, it can be noted that so far this happens not very often and, if so, on a very small scale.

4.6 Trends in the logistics sector

This section describes the trends that are related to the structure and organization of a supply chain and the operations associated with it. The described trends are based on current research done in the BE LOGIC project[25].

In general, supply chains exhibit a tendency towards greater coordination and collaboration among partners which is in turn influenced by the broadening of economic activity and the subsequent increase in competition among supply chains. The increasing competition among supply chains highlights the tendency towards the development of integrated supply chains (SC trend: supply chain integration), in which the boundaries inhibiting the flow of materials/products, financial resources and information (SC trend: information sharing) are removed in order to optimise the overall performance of the supply chain. In this globalised field of competition, supply chains are faced with the need to service geographically more distant markets which they can also use to source the materials required for the production processes. (SC trend: wider sourcing of supplies and distribution of goods).

The shift of the field of competition among companies to competition among supply chains highlights the importance of optimising processes across the supply chain and simultaneously abolishing local optimisation at individual nodes of the supply chain (e.g., inventory optimisation per supply chain partner) and enhancing the flexibility in the configuration of the supply chain to improve responsiveness to customer requirements (SC trend: agility/adaptability). Moreover, advancements in ICT along with the increasing individualization of consumption patterns have intensified the importance of providing consumers not only with customized products but also with customized transport services in order to enhance responsiveness to their requirements (SC trend: increase in direct deliveries). Therefore, the integrated view of supply chain operations and the need for greater agility and adaptability requires at first the reconfiguration of the current network of suppliers (SC trend: supply base rationalisation) to select those suppliers that can best serve the optimal supply chain network configuration. The shift of competition to a supply chain level and the consequent globalisation of the field of competition has also shifted the focus in several sectors from nationally based production to single locations which produce for a part of or even the entire international market they serve (SC trend: spatial concentration of production).

Advancements in transport technologies and in ICT, enhancement of transportation infrastructures and the onset of greater integration among supply chain partners have also facilitated the rationalisation of the network of stockholding points and its concentration in specific geographical locations which offer supply chains a financial benefit that is substantially larger than the additional transport cost they have to incur (SC trend: spatial concentration of inventory).

Finally, the deteriorating state of the global natural environment (climate change, reduction of natural resources) has resulted in a radical increase in the importance of

[25] Benchmarking Logistics for Co-modality (BE LOGIC), Report on the analysis of supply chain and freight transport trends, April 2009.

environmental and energy efficiency of supply chain operations, which has led to the incorporation of reverse logistical activities in the management and organization of supply chains (SC: reverse logistics).

Table 4.3 summarizes the previous supply chain trends.

Table 4.3 Supply chain trends

Physical structure trends	Organization and management trends	Supply chain flow trends
Spatial concentration of production	Supply chain integration	Reverse logistics
Spatial concentration of inventory	Supply base rationalisation	Information sharing
Wider sourcing of supplies and wider distribution of goods	Agility / adaptability	
Increase in direct deliveries		

4.7 Knowledge

Local and regional authorities in Emmen-Coevorden/northern region of The Netherlands place great emphasis on the presence of schools/knowledge institutions in the region. However, little scientific evidence was found in literature indicating that the regional presence of knowledge centres on logistics is a direct asset in strengthening the logistic hub. It is difficult to link the performance of regions that act as logistic hubs and the contribution of logistical knowledge centres based in these regions. Expertise could also develop at logistic service providers that are located in the region without knowledge exchange taking place between companies or the presence of a knowledge centre.

Nevertheless, based on the results of the interviews with local stakeholders and looking at experiences elsewhere, it becomes apparent that the presence of expertise in supply chain management and logistics in the region should be an important element in a strategy to develop the region Emmen-Coevorden into a logistical hub.

In-depth knowledge of regional logistic chains is important…
There is a trend towards carrying out production activities along the different steps in the supply chain, each step adding something to the product (in contrast to assembling everything in one place). In order to be competitive it is necessary to respond to these demands, to be innovative and really understand the full supply chain of shippers. This requires a proactive approach of logistics service providers.

Innovations in ICT

In annex 3 an overview of innovations in logistics and transport is included. Two specific examples of the use of information technology in ports and logistics are Portinfolink (now Portbase) and Interface.

- PORTINFOLINK, recently merged with the Port of Amsterdam IT base into PORTBASE, was designed and developed as a Port Community System for the Port of Rotterdam, in order to optimize the processes in the transport chains that run through the port. The system is internet based with a central database interconnecting all relevant actors (agents, freight forwarders, transport and terminal operators, government authorities, banks), enabling the efficient exchange of information and granting to every user access to user-specific information.

- INTERFACE could improve the efficiency and the effectiveness of border crossing operations applicable on four high potential traffic intermodal freight transport corridors. Dedicated innovative solutions were developed for the optimization of the intermodal procedures management, the optimization model for transhipment and loading planning, the harmonization of the information systems among the actors of the transport chain and the planning of specific integrated timetables.

Having a clear understanding of logistical chains of companies will help to determine what the best option is for handling cargo flows for these companies.
Having a clear view on cargo flows of individual companies also helps to combine transport of import and export flows in one trip, reducing the amount of trips and increasing efficiency. This requires information that often is considered confidential by the shippers. Finding ways to obtain information of flows of goods from competing companies to combine it in order to make overall flows transparent, whilst maintaining a level of confidentiality on the individual company data, is a challenge.
It is generally acknowledged by the companies interviewed that there is a shortage of highly trained and experienced experts in the fields of *custom procedures* and *supply chain management*.

Custom procedures are highly complicated. It is indicated that there is insufficient know-how on these issues internally at most shippers and that it is also difficult to obtain experience custom experts externally. The availability of this type of expertise locally is an appreciated asset.

Regarding supply chain management various companies have indicated that there is too little in-house knowledge of transport and the possibilities to make supply chains more efficient. It is hard to say whether there are many companies in the region that are actively looking to promote innovations in their supply chain, or which companies have made such efforts already. Although companies are interested to improve there supply chains and logistics, companies interviewed expressed the view that the main focus of the major shippers is on the fabrication of their products/goods.

As mentioned before, increasing the utilisation of transport capacity by transporting cargo on return trips, and avoiding having to make “empty trips” as much as possible, can increase efficiency levels. Also, the bundling of freight flows of different shippers is a way to transport goods more efficiently. It requires a good knowledge of the freight flows of companies (shippers) operating in the region. Sometimes also companies have to be convinced of the added value. Companies have very specific demands that can be hard to meet. For example, it was indicated by some logistic service providers that sometimes larger shippers do not see added value in combining their flows with these of other companies, as their transport flows are substantial enough. Combining these with others might bring only the risk of extra complications. For small and medium sized enterprises (SME) consolidation of goods may significantly increase their transport efficiency however. SME who succeed in consolidating their shipments might obtain enough critical mass to have their goods transport by other modes than road transport only.

… and a knowledge centre can help to build up or attract this knowledge…..

The presence of the Stenden University is seen as contributing towards building regional knowledge on logistics. Various companies employ staff graduated from Stenden. Students from Stenden are given internships with the aim to employ them afterwards. It is often noted however that it is more difficult to find experienced staff. Nevertheless it is not the most important source of knowledge. Logistic service providers are the main source of expertise on logistics. It is in these companies where most expertise and practical experience in logistics is concentrated. Having these service providers located in the region can be considered the key players when further developing a regional knowledge base. An interesting project is the 'Logistical Learning' project which is a cooperation project between Nieuwe Veste, Drenthe College and Stenden.

Offering logistic service providers what is needed to facilitate their clients' needs (reliable, quick, multimodal transport, space for VAL, etc.) will help to strengthen the position of the region as logistic centre. Creating a regional platform where these companies can meet and exchange experiences, as well as enter into dialogue with local governments to articulate their needs, was mentioned by several stakeholders interviewed as an instrument to focus efforts to improve the business climate for these companies.

On the other hand, the importance of providing information on the possibilities for locating in Emmen-Coevorden as a logistics service provider, promoting the regional business climate of Emmen-Coevorden, is stressed as well.

…as knowledge exchange needs to be promoted.

There is no clear overview of the linkages between the school and local businesses in the Emmen-Coevorden region for the purpose of promoting research and innovations logistics or supply chain management. There appear to be no structural forms of cooperation focussing on specific research questions, innovative pilots, or other kinds of multi-annual research programmes. In this respect it is interesting to notice that for example Nijhof Wassink has its own in-company education, with several company courses provided in their new office in Coevorden.

For the moment it appears that the initiatives to promote more efficient supply chains, if any, have been fragmented and information on the possibilities and success factors are not open for other companies (shippers). It was mentioned by most companies interviewed that it is thought that little knowledge is being shared between companies. This goes for both shippers and logistic service providers.

Also, there is little cooperation between stakeholders (public or private) to promote logistic activities in the region based on a shared vision of how the region should develop. This is not necessarily because parties are unwilling or unable, but until now no coordinated attempt has been made to develop a shared vision and action programme and to promote the region as a logistic hub. Looking at other regions that try to promote themselves as a logistic hub/trade port, the more promising attempts have been made under the coordination of a experienced dedicated promotion centre (for example a regional logistics board).

It was also suggested in the interviews to further study on the feasibility of creating a platform to spread this knowledge. It could promote innovations, by providing (information on) subsidies for innovative projects, or act as a mediator between companies and research institutes, like Stenden, initiating research pilots, student internships, or developing business plans. It should be organized in such a way that information is easily accessible without going through extensive bureaucratic procedures.

4.8 Conclusions

The quality of access to a dryport and the quality of the road//rail/waterway interface determines the quality of the terminal performance and needs scheduled, reliable, transport by high capacity means to and from the seaport. An important way to improve the efficiency of container transport in the dryport is to cooperate in a system that repositions empty containers. The fact that a dryport is container and multimodal oriented offers opportunities for Emmen-Coevorden: container transport will rise strong in the near future (see par. 2.1) and Emmen-Coevorden region has a tri-modal terminal in Coevorden.

Important infrastructure for the NOA comprises the A6/A7 (Randstad-Groningen-Germany), the A28/A37 (Randstad-Emmen-Germany), the inland waterway Lemmer-Delfzijl and the ports of Harlingen and Delfzijl. Important infrastructure in Emmen-Coevorden for the NOA comprises the A28/A37/A31 and the railroad Zwolle-Coevorden-Germany. The project developments for the Emsachse will further enhance the accessibility of the region. Emmen-Coevorden region is relatively good accessible by road, rail and inland waterways and therefore offer opportunities for logistic service providers. The plans for improving the bottleneck at the Meppelerdiep keersluis will enhance the inland waterway accessibility of the region. The rail connection for freight transport between Rotterdam and Coevorden/Emmen is believed to be insufficient. For the future this is a point of attention, as rail connection between dryport and seaport can be a key success factor for the dryport operations.

Due to its characteristics (near the border with Germany, accessibility by Dutch and German rail and road network), the Europark Coevorden/Emlichheim has a clear international component. The park is a large cross-border industrial site with some 120 ha at the Dutch side and some 230 ha at the German part.
The availability of business areas for new activities is recognized as a distinguishing positive factor. The image of the region by ‘the outside world’ is that it has a decentralized location.

The opinion and ideas of the interviewed stakeholder regarding the dryport ambitions of Emmen-Coevorden can be concluded as follows:

- The high accessibility of the road network which is largely congestion free is highly appreciated.
- There is general agreement that a level-playing field exist between Emmen-Coevorden and other nodes in the region as Veendam and Meppel.

- The fact that Emmen is also connected by rail for freight transport is not widely known (promotion is therefore necessary) amongst logistics service providers and shippers. Stakeholders who are familiar with rail freight transport to/from the region indicate there is a need to improve the rail bottleneck Utrecht, as this influences the frequency and the number of commercial stops.
- The region's position in intermodal transport (which by some of the stakeholders is believed to be underdeveloped) could be strengthened if a link with Duisburg, one of the European hubs in container transport, could be created. Frequency of intermodal (rail) services could be increased, transit times shortened.
- In general inland waterway transport to/from Coevorden is not seen as a real alternative for road and rail. Interviewees indicate that the required accessibility is around 1,200-1,500 tonnes barges. The accessibility of the canal Almelo-Coevorden needs to be improved, and also the transhipment facilities to load/unload containers. Good practices as currently launched by Nijhof Wassink need to be promoted in order to convince other companies that inland navigation might be a real alternative. The company was awarded the 'Green Award' for its innovative sustainability measures in 2008.
- The most important criterion according to shippers and logistics service providers is the reliability of transport services. This is believed to be more important than speed.
- The availability of know how on customs procedures is believed to be an important potential asset for the region. It is generally acknowledged by the interviewees that there is a shortage of highly trained and experiences experts in the field of custom procedures.
- Further to this, local stakeholders believe that the presence of logistics expertise in the region (business and research) should be more widely promoted. In that respect the presence of Stenden University is seen as a contributing factor to expand knowledge on logistics. Remarkably, stakeholders believe there is no structural cooperation on specific research questions, innovative pilot projects or other multi-annual research programmes.
- Stakeholders believe that more coordination is needed to develop a share vision and strategy for the region, including promotion of the region as logistics hub or trade port. Other regions (i.e. Venlo) have proven that if well coordinated this approach can be very successful.

5 SWOT-analysis

On the basis of the freight flows analysis conducted in Chapter 3, the review of availability and quality of infrastructure in Chapter 4 as well as the detailed opinions of stakeholders interviewed, the following SWOT table has been constructed.

Strengths	Weaknesses
• Available space • Good rail and road accessibility • Direct border-crossing rail connection (Bentheimer Eisenbahn) • Tri-modal terminal site • Not congested	• Not along main E-W corridors • Lack of high-skilled labour • IWT accessibility is poor • Low capacity on rail-link between port of Rotterdam and Coevorden/Meppel • Rail track length at Europark is limited in length
Opportunities	**Threats**
• Develop IWT (including terminal equipment) • Bundling of flows (especially SME) • Modal shift to rail/IWT • Cooperation with seaports both in NL and GE • Use of operators that are also active in other regions • Promote as modal shift point in green corridor	• Competition from nearby terminals • Increase of scale, especially regards IWT

Explanation of main points:

Strengths

- Available space: as indicated in annex 5, various business parks have wet estates available for new enterprises that want to establish facilities, or for expansion of existing companies. This is an attractive factor for growing activities. Due to increasing congestion and high prices per square meter in the Randstad, logistic oriented companies are reconsidering their current locations and operations. The northern region of The Netherlands may profit from this development.
- Good road and rail accessibility: according to various interviewees, the available road and rail infrastructure is of good quality and provides the required capacity to make business sites well accessible.
- Direct border-crossing rail connection: no other terminals in the Netherlands have this, and it would allow fast and smooth border crossing of trains. Dryport Emmen-Coevorden could then be directly linked to main rail freight hubs like Hamburg or Duisburg.
- Tri-modal terminal site: the lay-out of the terminal facilities in Coevorden already incorporates all three modes road, rail and water. This is an excellent starting point to develop tri-modal services.

- No congestion: the road network in the region has low congestion levels; time losses due to congestion are rather limited which is beneficial to the reliability of road delivery times.

Weaknesses

- Not along main E-W corridors: from the freight flows analysis as well as the interviews it has become clear that Emmen-Coevorden is not located along the main East-West corridors along which the largest volumes are transported. Therefore it will be more difficult to gain size, which makes it more challenging for Emmen-Coevorden to develop as a dryport than for sites like Venlo.
- IWT accessibility is believed to be poor: although Coevorden has good water facilities, the waterways towards Coevorden are too small to accommodate larger sized vessels. Interviewed stakeholders believe that at least 1200 ton barges should be able to sail to Coevorden to make this mode attractive.
- Low capacity on rail-link between port of Rotterdam and Coevorden/Meppel: although attractive as a railway hub, the capacity on the main links between the seaport of Rotterdam and Emmen-Coevorden is a bottleneck. Freight trains are not prioritised above passenger trains and increase in frequency is difficult. This will hinder the growth of rail traffic to/from the dryport.

Opportunities

- Develop IWT (including terminal equipment): terminal capacity to handle IWT freight is already available, and with some investments in equipment, the development of freight flows transported by this mode can be supported. A minimum requirement however will be to increase the capacity on waterways towards Coevorden.
- Bundling of flows: the freight flows analysis has shown that large volumes are transported to and from Emmen-Coevorden region, and even larger volumes on main corridors passing the region. By bundling these flows the required volume can be created that is needed for using the dryport terminal facilities instead of direct delivery, and to shift from road to other modes.
- Modal shift to rail/IWT: this opportunity follows from the previous, e.g. the bundling is required to make use of rail and IWT feasible (sufficient volume).
- Cooperation with seaports both in NL and GE: the dryport concept clearly follows from servicing freight flows to/from seaports. With increasing congestion in the mainports, the secondary ports and intra-continental maritime traffic becomes more important. The location of Emmen-Coevorden region centrally between the Dutch seaports of Rotterdam/Amsterdam and the German ports of Bremen/Hamburg allows it not to focus on one/two seaports only, but to target cooperation with seaports in both countries.
- Use of operators that are also active in other regions: transport operators often use networks of facilities, combining their freight volumes to realise optimal use of these facilities. Operators that have facilities in Emmen-Coevorden region will thus likely aim at optimising volumes handled there by linking them to volumes handled elsewhere. By attracting such network parties, the dryport will be able to capture larger volumes or cargo.
- Promote as modal shift point in green corridor: the dryport could choose to position itself as a ‘green’ hub. As Coevorden has tri-modal facilities, an image of

sustainability could be attached to the dryport concept, involving a high modal share for rail and IWT and an ambition to perform handling activities in a sustainable way.

Threats

- Competition from nearby terminals: both captive SE Drenthe freight flows and non-captive flows along corridors to the north and east of Europe, can still be handled at various terminals in the region. In the interviews some shippers reported that they used Veendam as their main hub. A nearby competitor is Meppel.
- Increase of scale, especially regards IWT: with the increase of scale, and in IWT especially the use of larger vessels, current bottlenecks in infrastructure will become more severe in future, risking reverse modal split (shift back to road transport). This will have a negative impact on the green image as well.

Most promising freight flows, commodity groups and transport modes

From the data analysis in chapter 3 it is concluded that one should distinguish between captive and non-captive cargoes. Captive transport to/from SE Drenthe is dominated by road. Only on the route to/from Rijnmond (Rotterdam seaport), rail has a 50% share. The role of IWT is marginal.

Total volumes of transport to/from SE Drenthe (excluding internal flows with an origin and destination in SE Drenthe) are some 12 million tons, of which only 350.000 tons are transported by rail and 75.000 tons by IWT. This means that more than 11.5 million tons are transported by road.
The largest road volumes do not go to/from the seaports, but to the ‘rest of Netherlands’. Short distance regions like Groningen, Friesland and other parts of Drenthe are relatively important. For the dryport, these may be less interesting as the distances are too short to develop intermodal transport.

The non-captive flows on the selected corridors are much larger and amount to some 27.5 million tons. Here, road is not the dominating mode although it still has a 40% share. Rail contributes the largest part having 52% or 14.4 million tons, while IWT also contributes substantially with 2.3 million tons (8%)

Promising flows that may pass the Emmen-Coevorden region and could be interesting for value added services in the dryport are flows destined for northern Germany or Scandinavia. When looking at volumes,

- For road transport, Germany accounts for 91% of the flows and Scandinavia for only 3%.
- For rail, this situation is even more concentrated with 99% having a German destination
- For IWT Scandinavia is not a relevant destination as this will be served by short sea shipping.

Vice versa, flow from Northern Germany to the Netherlands may also offer a potential. Flows from the German seaports to Drenthe/the North of the Netherlands are relatively small (some 0.6 million tons all together), but flows from land based origins in Northern Germany are substantial totalling over 6 million tons. The majority is transported by road, while the rail and IWT volumes are negligible.

In terms of commodities, the data analysis shows that:

- Captive road transport is dominated by dry bulk cargoes, which due to their low value may not likely be involved in intermodal transport
- General cargo is an important category as well in both captive and non-captive flows. This segment is not often transported by intermodal means.
- The container segment however will offer potential. Some 4.7 million tons (equalling almost 400.000 TEU[26]) are potentially available, of which 0.5 million tons is captive.

[26] Containers can have various weights depending on their contents. Typical values range in the order of 10-12 tons per TEU.

6 Stakeholder workshop

On 29 October 2009 a stakeholder workshop was organised by the cities of Emmen and Coevorden together with the Province of Drenthe. The draft results of this study were also presented. Some 50-60 stakeholders from both public and private organisations (see annex 7 for a list of participants) participated to the workshop.

Parallel discussions were held in four groups to find answers to the below questions; their findings reported back plenary:

1. How to deal with competition?
2. What is the role of the dryport towards seaports?
3. What infrastructure and what connections are needed?
4. How to create a realisation plan?

1. Competition

The main question was: How to deal with competition? There are other intermodal facilities in the region which should be considered when discussing the dryport concept in the region Emmen-Coevorden. There are numerous opportunities, but if this results in a pattern of terminals competing for their share, it may weaken the overall performance of the region. Therefore it is recommended to:

- Coordinate ambitions with other existing terminals, so that no overlaps are created
- Consider a focus on eastward freight flows, given the currently available rail and road links in this direction.
- Accept that inland shipping is mainly an addition but road and rail will be the dominant modes for Emmen-Coevorden

Within these choices still some improvements in rail may be required, but the basis exists. If shippers are selected strategically and new companies are attracted to the region on the basis of their proneness to rail transport, this may further help to let this strategy develop.

2. Role of Dryport Emmen-Coevorden towards seaports

Which role should the dryport take in its relation with seaports? The region Emmen-Coevorden could promote specific services in seaports like Rotterdam or Amsterdam, such as the offering of storage of containers and empty depot. Alternatives may be to offer space for industries that have lack of capacity in seaports or elsewhere. If this type of companies is selected on the basis of their potential (intermodal) transport flows, it helps to direct freight flows from the seaports towards Emmen-Coevorden.

3. Infrastructure and connections

With regard to the need for additional infrastructure, the general high quality of available road and rail links was confirmed in the workshop. The specific point of increasing the fairway capacity of the Almelo-Coevorden canal was put into the perspective of the potential volumes that could be attracted. Similar was said about a potential Emmen –

Meppen rail link. This new railway link was not seen as an added value or missing link to the region by the stakeholders present. Customs and ICT were not seen as requiring any upgrade.
From the demand point of view, it was mentioned that the dryport should not focus on rail and IWT only, but also include road transport as a mode that can offer added value to the region. Another potential market was considered to be the expanding activities in the Jade/Weserport in Bremerhaven.

Main challenge for the dryport will be to attract customers; the dryport parties should clearly take the initiative to realise this.

4. Realisation plan

The final step was to develop a realisation plan for the dryport. The workshop participants brought into discussion that several components are required (coordinated by the municipalities of Emmen and Coevorden), e.g.

- To define the location of the dryport
- To commit shippers to the dryport concept
- To promote the Emmen-Coevorden dryport among shippers in the seaports of Rotterdam and Amsterdam
- To attract development funds from the Ministry of Economic Affairs and others
- To promote among the general public and potential customers

7 Recommendations and actions

From the analysis conducted in the previous chapters it is concluded that the required infrastructure and services are largely available in the Emmen-Coevorden region. Although some upgrades in infrastructure are suggested (or already in progress) and services improvements may also be possible, generally the impression is that there are no major bottlenecks for starting the development of a dryport Emmen-Coevorden. What is still needed to get there is consensus on the focus, ambitions and targets of this dryport. In terms of volumes, captive freight flows (going to/from the region) already allow for a substantial increase of handling activities in the existing freight parks in Emmen and Coevorden, while flows potentially passing the region have an even greater volume. One should realise that it may not be possible to attract all these flows but on the basis of choosing geographic scope, commodity type and transport mode, already part of it is within reach.

Then where are the opportunities? From the analysis conducted it is derived that:

- By expanding rail services with Rotterdam (and perhaps also Amsterdam) and promote this as congestion free, green hinterland transport will help to get more cargo shifting from road to rail;
- Promoting the connectivity to European destinations via the Bentheimer Eisenbahn adds to this by showing the market the wide range of destinations that can be reached.

What actions are needed? The analysis in the previous chapters thus shows that the region of Emmen-Coevorden offers the potential of expanding current activities into a dryport. Furthermore the ambition is shared by a number of stakeholders from the region. It must however be noted that a dryport is not just a large intermodal terminal, but a concept. In order to materialise this concept in Emmen-Coevorden, six steps need to be taken:

1. Develop an integral vision and action programme on the desired logistic development/ ambitions;
2. Establish commitment and cooperation of the main stakeholders in the region;
3. Appoint a coordinator to organise and monitor this development and coordinate actions;
4. Promote the dryport among potential shippers, transport operators and all stakeholders;
5. Strengthen the relation with other dryports and seaports;
6. Develop the required (knowledge and physical) infrastructure.

1. Develop a vision and action programme

The first thing that is needed is that the main stakeholders, both private and public, develop their common vision on what the dryport should be. Issues like:

- Which modes to be served,
- Which facilities to be developed,
- Which infrastructure capacity is needed,
- What image to be realised,
- What target commodities to focus on,
- Which corridors to develop,
- What are the needs from the labour and knowledge perspective,
- What role for other terminals in the region?
- Etc.

Need to be answered by the stakeholders themselves. This report gives some input to this discussion, by presenting potential flows, volumes, and services that are available in the region. The freight flows analysis indicates that volumes to/from regions in Northern Germany offer more potential than further away regions like Scandinavia or the Baltics. Furthermore the existing infrastructure and flows suggest a focus on rail and road with inland waterways as a supportive mode rather than as the main mode being used. On short distance relations, transhipment often is not feasible and direct delivery is chosen, while on long distance relations there is not only competition between rail and IWT, but in the Baltic region also with short sea shipping.

Questions like 'do we want to be a sustainable, or *green*, dryport' are also part of this vision. Also a question to be answered is what ownership structure is desired.
The initiating parties could be the local and regional governments as well as a few large private parties already active in intermodal freight handling (e.g. Euroterminal, Nijhof Wassink, etc.). The work shop with regional stakeholders held 29 September can be seen as a first step in this process. The stakeholders connected themselves to the concept and were pro-active in discussing the initiatives for realising the strategic action programme.

A specific outcome of the workshop was the focus of the Emmen-Coevorden dryport in relation to other terminals and logistics facilities in the region. It is therefore recommended that strengths and weaknesses of other regions in the north of the Netherlands (and the near parts of Germany) are identified so that the roles and ambitions of these potential competitors are made clear. Subsequently talks can be held with these regions to assess the possibilities of cooperation and of market focus.

Box: Dryport in a green corridor

A green corridor would imply that the dryport focuses on serving sustainable transport modes (IWT, rail), and that it will support the bundling of freight flows to make these sustainable modes feasible. Furthermore it would itself use fuel-efficient equipment (low CO_2 emissions, low levels of dust and NO_x, etc.). Indirectly the dryport can contribute to the green corridor concept through knowledge sharing with operators in the region, supporting research programs for greening working methods or stimulating the cooperation between companies as to for example reduce empty return trips of vehicles.

In summary, whether or not a 'green corridor' image is desired needs to be discussed. It is noted that generally dryports are seen as sustainable concepts, as modal shift to rail or inland waterways helps to improve the sustainability of freight transport.

2. Establish commitment and cooperation

For the success of the dryport as a concept, it is important that it is shared among the stakeholders. It is noted that in fact any company operating in Emmen-Coevorden region transport and logistics can act as an ambassador of the dryport concept. This means that the vision is recognised by the stakeholders and they are inclined to share this vision, and to commit their business activities to it.

Also the companies can cooperate more to match and share the logistic know-how in the region.

3. Appoint a coordinator

Subsequently, a coordinator is required to get things organised. Again it is noted that while 'dryport' is a concept, actual services are performed by individual companies. They can continue doing so, but their activities need to be linked to benefit from the dryport concept as a whole. In other regions like Venlo this approach of a coordinating office (NV Regio Venlo) was also followed.

A possible way to take this step is by appointing an independent person, heading the 'dryport office' that is co-funded by all stakeholders benefiting from the concept. Such an approach would also help to increase the commitment to follow the principles of the dryport in company business approaches. Teaming-up with the already ongoing 'Drenthe Zuidas' activities should be considered.

4. Promote the dryport

Of course, the dryport needs to be promoted. This is something that the 'dryport office' could do. It implies promotion not just of the activities of individual companies, but of the combined package of services available in the dryport, and the value of this for potential users. Promotion can target shippers in the region currently using direct haulage, terminal operators in seaports managing freight volumes, or large logistics service providers planning freight transport throughout Europe. Promotion should also address the need for more sustainable transport solutions by using the most transport efficient combinations of modes (co-modality in stead of intermodal transport) in sea related transport chains or long distance transport corridors via the dryport.

5. Strengthen the relation with other dryports and seaports

Contacts with the seaports like Rotterdam, Amsterdam and Bremen should be further intensified. Dryport Emmen-Coevorden should be promoted as an extended gateway, free of congestion. Depending on the choices made in the vision and action programme (action 1), and the success of the coordination and promotion activities (actions 3 and 4), the need for improvement of the physical infrastructure between the dryport and the seaport should be reconsidered. Some bottlenecks need to be removed to ensure sufficient capacity and quality level in the transport system. The main points are:

- The capacity upgrading of the inland waterway Almelo – Coevorden;
- Improvement of the railway services on the rail-link with Rotterdam and the German hinterland.
- Extend the rail track length at Europark Coevorden to 700m.

The dryport office can coordinate the actions to strengthen the logistic relations and improve the bottlenecks, in cooperation with regional and provincial authorities and port and inland operators. Furthermore this office can initiate and coordinate the collection of very specific freight flow data of individual stakeholders as to get a more in-depth knowledge of the flows to/from the region, their specific needs and character.

8 Possibilities for Interreg project Dryport

8.1 Introduction

Dryport Emmen-Coevorden is part of the INTERREG IVB North Sea project Dryport. The transnational Dryport project aims to “set effective Hinterland intermodal freight transport nodes – Dryports - that are fully integrated with the Gateway’s freight handling systems” (p6 Application Form – AF). Within the project three regions concern a Dryport in close cooperation with a specific Gateway (Falköping, Zeebrugge and Haven Gateway), one region develops the gateway with a potentially viable and green hinterland dryport infrastructure (Edinburgh) and one region transforms and strengthens existing Hinterland hubs towards dryports serving various gateways (Emmen) (p8 AF).

To ensure an optimal use of the study and possibilities of dryport Emmen-Coevorden this chapter focuses on:

1. What are cross-border possibilities for a dryport?
2. How can this study be used in the INTERREG project?
3. What could be arguments to take a larger role in the INTERREG project?

8.2 Cross-border possibilities for Dryport

The application form of the INTERREG IVB Dryport project indicates “The intention is to develop cross-border cooperation between Emmen-Coevorden and Ems-Achse-Emsland” (2.5 p4).

Within the operational programme for cross-border cooperation between the Netherlands and Germany (INTERREG IVA) Priority axis 2.b offers possibilities for a dryport. Priority 2.b of the Cross-border programme Netherlands-Germany is focussed on stimulating the cross-border development of infrastructure (p69).
The aim is to develop infrastructure in which the border is not a barrier anymore.
Several activities are considered possible within priority 2.b, such as:

- Stimulating networking of transport modes and strengthening of integrated transport chains
- Stimulating the development of alternative and sustainable (environmental friendly) transport (means and roads).
- Stimulating of research/evaluations or information on cross-border missing-links of transport (e.g. Betuweline & Deltaline)
- Stimulation of measures to strengthen the programme area as logistical location.

In the SWOT of the operational programme several opportunities and weaknesses are relevant for a dryport:

- Opportunity: to better network between transport modes and strengthening transport chains
- Opportunity: to strengthen the programme area as logistical centre by the development of connections for combined transport.
- Weakness: a partly weak connection of ports to the hinterland.

Target group and beneficiaries of priority 2.b are SME's, innovation centres, regional and local organisations and governments. There is 25 million Euro EU funding available for Priority 2. It has not been indicated how much budget is allocated for priority 2.b. Maximum 50% of the project can be EU funded.

8.3 How can this study be used in the INTERREG project Dryport?

This report identifies the potential of Emmen-Coevorden for expanding current activities into a dryport and provides a set of steps to be taken to materialise the concept. As the other regions in the North Sea project also aim to develop dryports in their region, this report could serve as an example. Furthermore this report could function as a basis for further discussion.

How can this report be used in the INTERREG project Dryport:

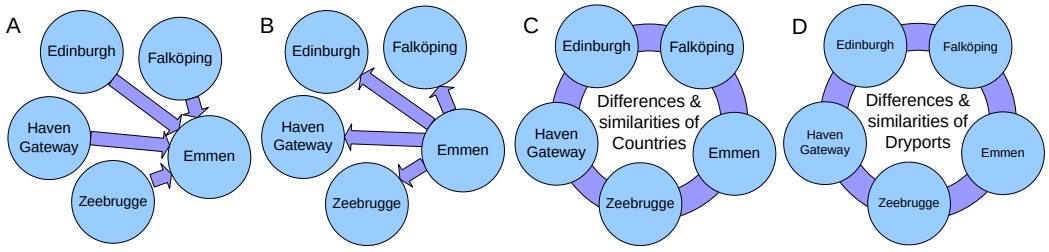
1. *Apply same approach in other partner regions*. The other North Sea regions could use the same approach for their own dryport region, which would avoid that they have to start from scratch. The approach is helpful in giving a clear insight in 1) what is a dryport, 2) potential relevant freight flows for the region, 3) infrastructure & services in relation to the dryport concept, 4) a SWOT analysis based on previous elements and 5) clear and practical recommendations on what is realistically achievable and what further actions are needed to develop the dryport. Questions that are being answered:
   - What are the freight flows on the relevant corridors?
   - What added value can be realised in the region by accommodating these flows?
   - What are the most important missing links in the infrastructure network?
   - What innovations are taking place that the dryport may benefit from?
   - Which parties are acting on the corridor? What are their plans?

2. *Develop joint report*. Having the same approach in each dryport region enables the partners to develop also a joint report on the potential dryports in the North Sea region.

3. *Promote dryport nationally*. Having the same approach enables the dryport regions to integrate the lessons and potentials of the other dryport concepts into their own policies, not only at regional and local level but potentially also at national level to distribute/promote the concept of a dryport. When there is a joint 'North Sea' approach for identifying the potential of the dryport, it will be easier for the regions to 'promote/sell' the dryport concept as they can present it as a transnational concept which has been tested and applied in several north sea regions.

4. *Use approach for transnational discussion*. The study has been developed for Emmen-Coevorden. However, this can facilitate a transnational exchange on how to proceed very practical with dryports.

    a. The transnational partners discuss together on the dryport Emmen-Coevorden. The experts from the United Kingdom, Sweden and Belgium come together and discuss on the basis of the report how to proceed in dryport Emmen-Coevorden. The study provides them input in the developments and potentials of Emmen-Coevorden. In this way dryport Emmen-Coevorden will be able to develop its dryport with the help of international expertise as experts from other countries will be able to share their views and experience in the Dutch case.
    b. The transnational partners discuss together what they learn for their own region and define this.



5. *Draw transnational lessons* from the study. The study could be the basis for a transnational discussion on what are developments within the North Sea region and decide on transnational/North Sea approaches. This could be done in two ways:
    c. The transnational partners discuss together what is different between the Netherlands and other countries
    d. The transnational partners discuss together what is different between the dryport situation based on this report

8.4 What could be arguments for a larger role in INTERREG project?

The Municipality of Emmen is partner in the North Sea project Dryport. The Municipality of Coevorden and the Province of Drenthe are subpartners. To allow Emmen-Coevorden in making a well funded decision on their role in an INTERREG project we have developed a few questions:

- Does Emmen-Coevorden need international expertise to develop their own dryport?
- Does Emmen-Coevorden have the ambition to present the dryport concept transnationally
- Does Emmen-Coevorden have the ambition to be the first contact of the dryport concept
- Does Emmen-Coevorden have the ambition to lead (on parts of) INTERREG projects?
- Does/could the INTERREG project help Emmen-Coevorden to promote the dryport concept?

- Does/could the INTERREG project help Emmen-Coevorden to accelerate the implementation of the Dryport?
- Does/could the INTERREG project help to increase the scale of the dryport Emmen-Coevorden?
- Does/could the INTERREG project help to increase the quality of the dryport Emmen-Coevorden?
- Does/could the INTERREG project help to release resources to allow other projects for dryport Emmen-Coevorden to proceed?

Annex 1: Literature overview

Source		Organisation	Date
1.	Actieprogramma goederenvervoer Noord-Nederland	SNN	28-01-2004
2.	Feasibility Study on the network operation of hinterland hubs (Dryport Concept) to improve and modernise ports' connections to the hinterland and to improve networking	FDT	31-01-2007
3.	Blue Ports: Knooppunten voor de regionale economie	TNO	
4.	Best Practices Hinterlandverbindingen Havens	VIL	2004
5.	Onderzoek haalbaarheid spoorlijn Emmen-Groningen	GS Drenthe	26-10-2007
6.	Maatschappelijke Kosten-Baten Analyse van Nieuwe Spoorverbindingen tussen Groningen en Emmen	RUG	Oktober 2008
7.	Netwerkanalyse regio Groningen-Assen	Grontmij	Juli 2006
8.	NETWERKANALYSE SPOOR: Markt- en capaciteitsanalyse van de rol van de trein in de mobiliteit van Nederland	NS/Prorail	11-09-2006
9.	Provinciaal Verkeers- en Vervoersplan Drenthe: Kaders en Ambities 2007 - 2020	Provincie Drenthe	Mei 2007
10.	Provinciaal Verkeers- en Vervoersplan Drenthe: Uitvoeringsagenda 2007 - 2012	Provincie Drenthe	Mei 2007
11.	Railvisie Zwolle-Meppen: Appendix 4. Interreg IVB North Sea project 'Dryport – a modal shift in practice' Summary project description	Interreg IVB North Sea	-
12.	Beter (goed(eren) vervoer! Regiovisie goederenvervoer Noord-Nederland	SNN	Mei 2004
13.	Samenwerkingsagenda Noord-Nederland 2007	SNN	Oktober 2007
14.	Koers Noord- Op weg naar pieken: duurzame groei door omschakeling naar een kenniseconomie	EZ/SNN	-
15.	Landzijdige bereikbaarheid Mainports en Greenports	ECORYS	25-02-2008
16.	Netwerkanalyse vaarwegen en binnenhavens Drenthe	ECORYS	04-07-2008
17.	Plan van Aanpak Buck Consultants "logistieke draaischijf goederenvervoer in de NOA	Buck	7-12-07
18.	Presentatie resultaten interviews door BCI	Buck	10-4-08
19.	Railvisie 2020 Zwolle-Meppen i.o.v. Stuurgroep Railvisie Zwolle-Meppen;	Buck	Juni 2000
20.	Eindrapport vrijwillige NWA Zuid-Drenthe	Provincie Drenthe	-

Annex 2: List of interviewed stakeholders

Name	Company
N. Kamping	AAF International BV (Emmen
M. Brinkman	Brinkman Trans-Holland (Emmen)
G. Siebum	Emmtec Services (Emmen)
L. Bilbé	Lubbers Logistics (Schoonebeek)
E. Groen	Teijin Aramid
K. Overtoom	Havenbedrijf Amsterdam
J. Nater	ECT
M. Philips	Stichting Rail Cargo
A. Bos	Iams Coevorden

Annex 3: Innovations

Increased opportunities for multimodal transport

The truck is currently the dominant transport mode to and from the greenports. In the near future however there will possibly be more opportunities for multimodal transport. This depends to what extend innovations will take place to transport and conserve these time-critical goods (reefer containers, etc.)[27].

Best practices PROMIT/PLATINA

In the EC-projects PROMIT and PLATINA an inventory of best practices in the area of intermodal transport is being made. Some of these best practices can be characterized as innovative concepts. The most relevant as regards the dryport concept are:

- New dedicated vessel types like the AMS Barge, SMART barge[28] and the flour tanker[29]:
- Information and communication technology like PORTINFOLINK, INTERFACE, GIP and MIRTO:
    - PORTINFOLINK was designed and developed as a Port Community System for the Port of Rotterdam, in order to optimize the processes in the transport chains that run through the port. The system is internet based with a central database interconnecting all relevant actors (agents, freight forwarders, transport and terminal operators, government authorities, banks), enabling the efficient exchange of information and granting to every user access to user-specific information.
    - INTERFACE could improve the efficiency and the effectiveness of border crossing operations applicable on four high potential traffic intermodal freight transport corridors. Dedicated innovative solutions were developed for the optimization of the intermodal procedures management, the optimization model for transhipment and loading planning, the harmonization of the

[27] Landzijdige bereikbaarheid mainports en greenports, ECORYS

[28] This new concept concerns a container ship that may become the standard for the future: a middle-sized container ship with maximized loading capacity for all container sizes (incl. 45 ft high cubes) minimized fuel use state of the art balancing system. The SMART barge has a length of 86m, beam of 11.45m, draft of 3.20 and hull of 3.75m. Loading capacity is around 2,100 tons and 172 TEU (4 layers; 126 TEU at 3 layers). This almost equals the loading capacity of a 110m vessel. The ship currently sails between the sea ports and the IJsselmeer (Kampen and Harlingen). Using its extra ballast capacity, the ship can lower its height and sail the Amsterdam – Rijnkanaal in the Netherlands with 4 layers of containers instead of three.

[29] This new state-of-the-art ship operates without spreading the dusty cargo to the environment. Furthermore, the self loading/unloading ship reduced the required shore based equipment. The ship has been employed to ship flour between a flour factory north of Amsterdam and a processing plant in Nijmegen. The ship also works as a functional storage, which was an advantage for the processing company. Furthermore the reliability (Just in time) and attractive transport price made the operation beneficial to its clients. The ship has replaced about 10,000 truck movements.

information systems among the actors of the transport chain and the planning of specific integrated timetables.
    - GIP is a fully integrated operational platform for managing, door-to-door freight transport in an intermodal environment all around Europe. It provided applications for the operational (e.g. track, trace and monitor the door-to-door journey, aid in trip management, fleet management), as well as all the e-commerce functions and insurance of a door-to-door freight transport chain including order matching, e-document, transfer, e-payment). The GIP communication systems (based on current terrestrial and satellite mobile systems and emulation of the future UMTS) interfaced with the overall GIFTS components.
    - MIRTO concerns advanced prototypes of state of the art telematics solutions for the automatic monitoring of cargo/ vehicles in the context of cooperation between the (Greek) railways and the main sea ports of the country. The integrated solutions make use of advanced technologies for Tracking and Tracing Intermodal Transport Units (ITUs) both during their way along the national rail transport network and within ports and railway terminals.
- Efficiency improvement at intermodal terminals: an example of a good innovative practice concerns the project idea that came out from the needs of INTERPORTO BOLOGNA (a Freight Village). The main objectives of the project were:
    - to increase the efficiency of the shunting process;
    - to optimize the information flow between different actors involved in intermodal transport;
    - to increase the capacity of wagons shunted by increasing the capacity of the siding tracks;
    - to develop core IT services following an international approach (new/different railway undertakings operating within the same intermodal terminal);
    - try to convey results of implementation of new IT services to actors/partners.
- Security developments, such as the integration of freight information with security requirements and the matching of ISPS needs. At EU level several projects are ongoing to develop new means and technologies in this respect, as well as to investigate organisational requirements.

Annex 4: Freight flows data

Literature review

Freight flows in SE Drenthe

The Euroterminal on the Europark (Coevorden) currently tranships a volume of 1 million tons/year (road, rail, water). In 2020 around 2 million tonnes is expected[30].

By rail currently less than 1 million tonnes of goods are transported between Emmen and Almelo.

Freight flows between the northern region of The Netherlands and northern Europe

Only one report gives an impression of the current freight flows between the four provinces in the northern part of the Netherlands and the northern region of Europe. The results are listed below. Information on the commodities, the modal split and the expected future developments is lacking however.

Table A4.0 Forecasts of freight flows between the NOA and the northern region of The Netherlands in 2005 (in tonnes and in % of total Dutch figures)

Tabel 3.2 Prognose goederenstromen tussen de NOA en Noord – Nederland 2005 absoluut (in tonnen) en als % van totaal Nederland

Herkomstgebied	Bestemmingsgebied								
	Groningen		Friesland		Drenthe		Noord NL		NL Totaal
	Absoluut	Relatief	Absoluut	Relatief	Absoluut	Relatief	Absoluut	Relatief	Absoluut
NOA*	2045010	2,84	513562	0,71	1817940	2,52	4376512	6,07%	72059358
Noord - Duitsland	1460028	8,82	438610	2,65	1699201	10,26	3597839	21,73%	16560274
Denemarken	95017	3,34	8980	0,32	31853	1,12	135850	4,77%	2846036
Zweden	107476	1,86	10600	0,18	56826	0,98	174902	3,02%	5789983
Noorwegen	89695	0,36	1803	0,01	9511	0,04	101009	0,41%	24767817
Polen	34255	0,83	49189	1,19	18458	0,45	101902	2,47%	4123880
Sovjet Unie	258539	1,44	4380	0,02	2091	0,01	265010	1,47%	17971368

** Noord – Duitsland, Denemarken, Zweden, Noorwegen, Sovjet Unie en Polen*

Tabel 3.3 Prognose goederenstromen tussen Noord – Nederland en de NOA 2005 (in tonnen)

Herkomstgebied	Bestemmingsgebied					
	Noord - Duitsland	Denemarken	Zweden	Noorwegen	Polen	Sovjet Unie
Groningen	1863967	227008	235665	59687	49124	257622
Friesland	171319	13087	12782	3021	4154	6706
Drenthe	361787	33010	26524	6615	25204	2134

Tabel 3.4 Prognose goederenstromen tussen Noord – Nederland en de NOA 2005 absoluut (in tonnen) en als % van totaal

Herkomstgebied	Bestemmingsgebied					
	NOA*		Rest van de Wereld		Totaal	
	Absoluut	Relatief	Absoluut	Relatief	Absoluut	Relatief
Groningen	2693073	8,57%	28731006	91,43%	31424079	100%
Friesland	211069	0,89%	23425340	99,11%	23636409	100%
Drenthe	455274	2,53%	17560422	97,47%	18015696	100%

** Noord – Duitsland, Denemarken, Zweden, Noorwegen, Sovjet Unie en Polen*

Source: NOA eindrapport

[30] Source: Netwerkanalyse Zuid-Drenthe

The above tables show the volumes being shipped to and from the North of the Netherlands to Germany and the north eastern hinterland. Whereas the Province of Groningen is receiving the largest volumes (around 2 million tons) on this corridor, Drenthe is a close second with 1.8 million tonnes coming in. Furthermore the tables show that the North of Germany is by far the most important origin area, where 1.7 million tons of cargo is coming from.

Furthermore the tables indicate an imbalance in freight flows to/from Drenthe. While 1.8 million tons are coming in, only 0.5 million tons are going out to NOA countries. A volume of 18 million tons are heading for other, non-NOA, destinations.
In task 3, the freight flows will be further analysed.

Missing data

In the analyzed literature no information could be found regarding:

- current and future transport flows on the corridor between the mainports Rotterdam and Amsterdam and northern Germany and beyond (Scandinavia, Baltic);
- current and future transport flows on the corridor between Hamburg/Bremen and the South;
- the share that Emmen-Coevorden currently has in these two corridors.

Furthermore data on the German side of the region (Lingen, Meppen area) is not obtained. Further investigation into this part of the region is relevant as the cross-border cooperation offers opportunities for strengthening the dryport.

Detailed freight flow tables

The following tables are inserted:

- OD tables road
- OD tables rail
- OD tables IWT

Each table set distinguishes commodities transported by each mode. The following categories are applied:

- chemicals
- containers
- dry bulk
- liquid bulk
- general cargo

Origins and destinations within the Netherlands are categorised by COROP region. There are 40 COROP regions in the Netherlands, of which SE Drenthe is one single region. Below map shows all 40 regions.

Figure 0.1 Map of COROP regions

Subsequently tables of TCI presenting OD data also by commodity are included

Table A4.1 Total road freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IJmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest NL	Rijnmond	NZKG	Overig West-NL	France	Germany	Italy	United Kingdom	Denmark	Portugal	Spain	Belgium	Luxemburg	Norway	Sweden	Finland	Austria	Switzerland	Poland	Czech Republic	Russia	TOTAL
N Drenthe		180.861																															180.861
SE Drenthe	795.263	2.210.899	210.646	14.823	12.087	2.068	7.128	60.867	85.137	7.695	8.668	164.254	4.981.378				56.186	448.415	736	10.863	32.861		627	137.977	3.220	452	7.968		19.801					9.280.019
SW Drenthe		447.344																															447.344
Overig NZK-geb.		6.827																18.867															25.694
IJmuiden/Velsen		15.793																188.464								1.056							205.313
Aggl. Haarlem		4.295																11.887															16.182
Zaanstreek		6.472																265.538			13.064					1.616	3.309				3.450			293.449
Ov. Groot-A'dam		48.909																503.114			19.016					3.390	26.825	3.740			5.344		2.228	612.566
Amsterdam		20.227																350.507			6.461					792								377.987
Ov. Groot-Rijnm.		19.435																432.648			6.090						16.693	3.171			5.327			483.364
Overig Rijnm.		228.221																366.999			10.790					14.245	31.287	4.235						655.777
Rotterdam		2.649																4.012.771			67.300					4.080	31.638				11.930			4.130.368
Rest NL		2.471.576																															2.471.576
France		11.900																															11.900
Germany		1.077.264												3.209.597	545.314	530.852																	5.363.027
Italy																																	0
United Kingdom		1.879																															1.879
Denmark		12.655												18.214	12.579	10.455																	53.903
Portugal		3.511																															3.511
Spain																																	0
Belgium		119.503																															119.503
Luxemburg		7.302																															7.302
Norway														3.909	1.831																		5.740
Sweden		2.605												41.860	23.841	50.913																	119.219
Finland																1.046																	1.046
Austria		0																															0
Switzerland		3.995																															3.995
Poland								3.494		0	2.336	307																					6.137
Czech Republic		553																															553
Russia								268																									268
TOTAL	795.263	6.904.675	210.646	14.823	12.087	2.068	7.128	64.629	85.137	7.695	11.004	164.561	4.981.378	3.273.580	583.565	593.266	56.186	6.599.210	736	10.863	155.582	0	627	137.977	3.220	24.575	118.776	11.146	19.801	0	26.051	0	2.228	24.878.483

Table A4.2 Chemicals road freight (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IJmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest NL	Rijnmond	NZKG	Overig West-NL	France	Germany	Italy	United Kingdom	Denmark	Portugal	Spain	Belgium	Luxemburg	Norway	Sweden	Finland	Austria	Switzerland	Poland	Czech Republic	Russia	TOTAL
N Drenthe		3.482																															3.482
SE Drenthe	268.487	539.557	9.289				4.404		44.165		5.669	10.708	411.062				15.591	62.125		7.324	8.034			16.054			4.010		2.878						1.409.357
SW Drenthe		0																															0
Overig NZK-geb.		4.702																															4.702
IJmuiden/Velsen		4.702																															4.702
Aggl. Haarlem																		1.767															1.767
Zaanstreek																		33.175															33.175
Ov. Groot-A'dam		30.851																18.519			598													49.968
Amsterdam		1.460																76.038								792								78.290
Ov. Groot-Rijnm.																		15.740																15.740
Overig Rijnm.																		55.301			4.197													59.498
Rotterdam		36.884																506.248			20.070													563.202
Rest NL		612.392																															612.392
France																																	0
Germany		49.478												294.157	58.473	61.705																	463.813
Italy																																	0
United Kingdom																																	0
Denmark																																	0
Portugal																																	0
Spain																																	0
Belgium		55.797																															55.797
Luxemburg																																	0
Norway																																	0
Sweden		485												2.969																				3.454
Finland																																	0
Austria																																	0
Switzerland		3.995																															3.995
Poland																																	0
Czech Republic																																	0
Russia																																	0
TOTAL	268.487	1.343.785	9.289	0	0	0	4.404	0	44.165	0	5.669	10.708	411.062	297.126	58.473	61.705	15.591	768.913	0	7.324	32.899	0	0	16.054	0	792	4.010	0	2.878	0	0	0	0	3.363.334

Table A4.3 Containers road freight (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IJmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest NL	Rijnmond	NZKG	Overig West-NL	France	Germany	Italy	United Kingdom	Denmark	Portugal	Spain	Belgium	Luxemburg	Norway	Sweden	Finland	Austria	Switzerland	Poland	Czech Republic	Russia	TOTAL
N Drenthe		0																																0
SE Drenthe	5.151	8.843	23.748					481			758	63.540	31.829					12.094						27.618											174.062
SW Drenthe		38.262																																38.262
Overig NZK-geb.																																		0
Ijmuiden/Velsen																																		0
Aggl. Haarlem																																		0
Zaanstreek																		1.371																1.371
Ov. Groot-A'dam																		6.253								926								7.179
Amsterdam																		46.130																46.130
Ov. Groot-Rijnm.																		56.025								3.645								59.670
Overig Rijnm.		242																55.001			4.150							2.651						62.044
Rotterdam		76.626																2.088.240			9.589					11.677					11.930			2.198.062
Rest NL		29.164																																29.164
France																																		0
Germany		4.419								1.730.558	34.025	17.685																						1.786.687
Italy																																		0
United Kingdom																																		0
Denmark										4.204																								4.204
Portugal																																		0
Spain																																		0
Belgium		1.370																																1.370
Luxemburg																																		0
Norway																																		0
Sweden										9.579		2.320																						11.899
Finland																																		0
Austria																																		0
Switzerland																																		0
Poland												307																						307
Czech Republic																																		0
Russia																																		0
TOTAL	5.151	158.926	23.748	0	0	0	0	481	0	1.744.341	34.783	83.852	31.829	0	0	0	0	2.265.114	0	0	13.739	0	0	27.618	0	0	16.248	2.651	0	0	11.930	0	0	4.420.411

Table A4.4 Dry bulk road freight (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IJmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest NL	Rijnmond	NZKG	Overig West-NL	France	Germany	Italy	United Kingdom	Denmark	Portugal	Spain	Belgium	Luxemburg	Norway	Sweden	Finland	Austria	Switzerland	Poland	Czech Republic	Russia	TOTAL
N Drenthe		31.870																																31.870
SE Drenthe	360.133	947.001	99.206	14.310	2.755		2.092	4.141	24.543			3.389	3.214.764				12.194	113.825			5.192			19.947											4.823.492
SW Drenthe		247.707																																247.707
Overig NZK-geb.																		3.615																3.615
Ijmuiden/Velsen		2.667																39.626																42.293
Aggl. Haarlem																																		0
Zaanstreek																		51.825			3.340					1.616								56.781
Ov. Groot-A'dam																		69.931																69.931
Amsterdam		5.062																73.887																78.949
Ov. Groot-Rijnm.		2.530																20.801																23.331
Overig Rijnm.																		15.322																15.322
Rotterdam		5.915																153.755			3.741													163.411
Rest NL		672.930																																672.930
France																																		0
Germany		847.847												72.779	159.902	57.724																		1.138.252
Italy																																		0
United Kingdom																																		0
Denmark															3.876																			3.876
Portugal																																		0
Spain																																		0
Belgium		8.101																																8.101
Luxemburg																																		0
Norway																																		0
Sweden		2.120														7.331																		9.451
Finland																																		0
Austria																																		0
Switzerland																																		0
Poland																																		0
Czech Republic		553																																553
Russia																																		0
TOTAL	360.133	2.774.303	99.206	14.310	2.755	0	2.092	4.141	24.543	0	0	3.389	3.214.764	72.779	163.778	65.055	12.194	542.587	0	0	12.273	0	0	19.947	0	1.616	0	0	0	0	0	0	0	7.389.865

Table A4.5 Liquid bulk road freight (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IJmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest NL	Rijnmond	NZKG	Overig West-NL	France	Germany	Italy	United Kingdom	Denmark	Portugal	Spain	Belgium	Luxemburg	Norway	Sweden	Finland	Austria	Switzerland	Poland	Czech Republic	Russia	TOTAL
N Drenthe		11.192																																11.192
SE Drenthe		2.658											5.127																					7.785
SW Drenthe		30.141																																30.141
Overig NZK-geb.																																		0
Ijmuiden/Velsen																																		0
Aggl. Haarlem																																		0
Zaanstreek																																		0
Ov. Groot-A'dam																																		0
Amsterdam																																		0
Ov. Groot-Rijnm.																																		0
Overig Rijnm.																																		0
Rotterdam		70.795																47.469																118.264
Rest NL		210.174																																210.174
France																																		0
Germany														11.744	789																			12.533
Italy																																		0
United Kingdom																																		0
Denmark																																		0
Portugal																																		0
Spain																																		0
Belgium																																		0
Luxemburg																																		0
Norway																																		0
Sweden																																		0
Finland																																		0
Austria																																		0
Switzerland																																		0
Poland																																		0
Czech Republic																																		0
Russia																																		0
TOTAL	0	324.960	0	0	0	0	0	0	0	0	0	0	5.127	11.744	789	0	0	47.469	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	390.089

Table A4.6 General cargo road freight (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IJmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest NL	Rijnmond	NZKG	Overig West-NL	France	Germany	Italy	United Kingdom	Denmark	Portugal	Spain	Belgium	Luxemburg	Norway	Sweden	Finland	Austria	Switzerland	Poland	Czech Republic	Russia	TOTAL
N Drenthe		134.317																																134.317
SE Drenthe	161.492	712.840	78.403	513	9.332	2.068	632	56.245	16.429	7.695	2.241	86.617	1.318.596				28.401	260.371	736	3.539	19.635		627	74.358	3.220	452	3.958		16.923					2.865.323
SW Drenthe		131.234																																131.234
Overig NZK-geb.		2.125																15.252																17.377
Ijmuiden/Velsen		8.424																148.838									1.056							158.318
Aggl. Haarlem		4.295																10.120																14.415
Zaanstreek		6.472																179.167			9.724						3.309				3.450			202.122
Ov. Groot-A'dam		18.058																408.411			18.418					3.390	25.899	3.740			5.344		2.228	485.488
Amsterdam		13.705																154.452			6.461													174.618
Ov. Groot-Rijnm.		16.905																340.082			6.090						13.048	3.171			5.327			384.623
Overig Rijnm.		2.407																241.375			2.443					14.245	31.287	1.584						293.341
Rotterdam		38.001																1.217.059			33.900					4.080	19.961							1.313.001
Rest NL		946.916																																946.916
France		11.900																																11.900
Germany		175.520												1.100.359	292.125	393.738																		1.961.742
Italy																																		0
United Kingdom		1.879																																1.879
Denmark		12.655												14.010	8.703	10.455																		45.823
Portugal		3.511																																3.511
Spain																																		0
Belgium		54.235																																54.235
Luxemburg		7.302																																7.302
Norway														3.909	1.831																			5.740
Sweden														29.312	23.841	41.262																		94.415
Finland																1.046																		1.046
Austria																																		0
Switzerland																																		0
Poland								3.494			2.336																							5.830
Czech Republic																																		0
Russia								268																										268
TOTAL	161.492	2.302.701	78.403	513	9.332	2.068	632	60.007	16.429	7.695	4.577	86.617	1.318.596	1.147.590	326.500	446.501	28.401	2.975.127	736	3.539	96.671	0	627	74.358	3.220	22.167	98.518	8.495	16.923	0	14.121	0	2.228	9.314.784

Rail

Table A4.7 Total rail freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	COROP SE Drenthe	COROP Rijnmond	Rijnmond	NZKG	France	Germany	Denmark	Belgium	Sweden	Poland	TOTAL
N Drenthe														0
SE Drenthe														0
SW Drenthe														0
COROP SE Drenthe					187.425						253			187.678
COROP Rijnmond				118.338										118.338
Rijnmond									10.574.699	3.797		2.092	153.477	10.734.065
NZKG									2.584.763	163		756	933	2.586.615
France				4.760										4.760
Germany						473.291	579.583							1.052.874
Denmark						578								578
Belgium				41.449										41.449
Sweden						2.957								2.957
Poland						23.191	2							23.193
TOTAL	0	0	0	164.547	187.425	500.017	579.585	0	13.159.462	3.960	253	2.848	154.410	14.752.507

Table A4.8 Chemicals rail freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	COROP SE Drenthe	COROP Rijnmond	Rijnmond	NZKG	France	Germany	Denmark	Belgium	Sweden	Poland	TOTAL
N Drenthe														0
SE Drenthe														0
SW Drenthe														0
COROP SE Drenthe											253			253
COROP Rijnmond				118.338										118.338
Rijnmond									346.119	3.797		512	28.347	378.775
NZKG									3.250				670	3.920
France														0
Germany						191.406								191.406
Denmark						33								33
Belgium				41.449										41.449
Sweden						1.461								1.461
Poland						4.580								4.580
TOTAL	0	0	0	159.787	0	197.480	0	0	349.369	3.797	253	512	29.017	740.215

Table A4.9 Containers rail freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	COROP SE Drenthe	COROP Rijnmond	Rijnmond	NZKG	France	Germany	Denmark	Belgium	Sweden	Poland	TOTAL
N Drenthe														0
SE Drenthe														0
SW Drenthe														0
COROP SE Drenthe					187.425									187.425
COROP Rijnmond														0
Rijnmond									285.885				121.150	407.035
NZKG														0
France														0
Germany						185.192								185.192
Denmark						296								296
Belgium														0
Sweden														0
Poland						11.501								11.501
TOTAL	0	0	0	0	187.425	196.989	0	0	285.885	0	0	0	121.150	791.449

Table A4.10 Dry bulk rail freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	COROP SE Drenthe	COROP Rijnmond	Rijnmond	NZKG	France	Germany	Denmark	Belgium	Sweden	Poland	TOTAL
N Drenthe														0
SE Drenthe														0
SW Drenthe														0
COROP SE Drenthe														0
COROP Rijnmond														0
Rijnmond									9.491.151			448	180	9.491.779
NZKG									1.729.676			756		1.730.432
France														0
Germany						2.831	395.933							398.764
Denmark														0
Belgium														0
Sweden														0
Poland						104								104
TOTAL	0	0	0	0	0	2.935	395.933	0	11.220.827	0	0	1.204	180	11.621.079

Table A4.11 Liquid Bulk rail freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	COROP SE Drenthe	COROP Rijnmond	Rijnmond	NZKG	France	Germany	Denmark	Belgium	Sweden	Poland	TOTAL
N Drenthe														0
SE Drenthe														0
SW Drenthe														0
COROP SE Drenthe														0
COROP Rijnmond														0
Rijnmond									6.237				581	6.818
NZKG									14.680					14.680
France														0
Germany						12								12
Denmark														0
Belgium														0
Sweden														0
Poland														0
TOTAL	0	0	0	0	0	12	0	0	20.917	0	0	0	581	21.510

Table A4.12 General cargo rail freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	COROP SE Drenthe	COROP Rijnmond	Rijnmond	NZKG	France	Germany	Denmark	Belgium	Sweden	Poland	TOTAL
N Drenthe														0
SE Drenthe														0
SW Drenthe														0
COROP SE Drenthe														0
COROP Rijnmond														0
Rijnmond									445.307			1.132	3.219	449.658
NZKG									837.157	163			263	837.583
France				4.760										4.760
Germany						93.850	183.650							277.500
Denmark						249								249
Belgium														0
Sweden						1.496								1.496
Poland						7.006	2							7.008
TOTAL	0	0	0	4.760	0	102.601	183.652	0	1.282.464	163	0	1.132	3.482	1.578.254

Table A4.13 Total IWT freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	Ijmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest of NL	Sleswig-Holstein	Hamburg	N Niedersachsen	W Niedersachsen	SE Niedersachsen	Bremen	N Nordrhein-Westphalen	Ruhrgebiet	SW Nordrhein-Westphalen	Berlin	Mecklenburg-Vorpommern	Brandenburg	Sachsen-Anhalt	Sachsen	Denmark	Belgium	Norway	Latvia	Poland	Russia	TOTAL
N Drenthe																																		0
SE Drenthe					0				0		0	1.020	300							0	253								0					1.573
SW Drenthe		0																																0
Overig NZK-geb.																	1.610																	1.610
Ijmuiden/Velsen		660														4.680	25.782	43.987	17.520						1.010									93.639
Aggl. Haarlem																	59.125																	59.125
Zaanstreek																	379																	379
Ov. Groot-A'dam																	0	560																560
Amsterdam		410												3.028	2.060	8.715	332.837	79.047	24.494				5.485	2.150	9.953	193.037	2.000					1.412		664.628
Ov. Groot-Rijnm.																		0							951	0								951
Overig Rijnm.		0															900									0								900
Rotterdam		1.040												2.600	2.357	9.257	446.692	99.340	67.389				5.085	2.300	23.814	149.791	500	500		1.240	760	501		813.166
Rest of NL		23.183																																23.183
Sleswig-Holstein									2.468																									2.468
Hamburg												962																						962
N Niedersachsen																																		0
W Niedersachsen				3.748	5.968	0	1.316	6.139	134.221		64.081	136.872																						352.345
SE Niedersachsen					2.959		10.082		2.988		1.000	33.688																						50.717
Bremen					2.955				3.266			4.058																						10.279
N Nordrhein - Westphalen		48.769																																48.769
Ruhrgebiet		722																																722
SW Nordrhein-Westphalen		300																																300
Berlin							1.113		4.389			2.125																						7.627
Mecklenburg-Vorpommern												3.217																						3.217
Brandenburg					887				660			2.543																						4.090
Sachsen-Anhalt					25		66.564		40.377			111.658																						218.624
Sachsen					21							909																						930
Denmark												834																						834
Belgium		805																																805
Norway																																		0
Latvia																																		0
Poland																																		0
Russia																																		0
TOTAL	0	75.889	0	3.748	12.815	0	79.075	6.139	188.369	0	65.081	297.886	300	5.628	4.417	22.652	867.325	222.934	109.403	0	253	0	10.570	4.450	35.728	342.828	2.500	500	0	1.240	760	1.913	0	2.362.403

Table A4.14 Chemicals IWT freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	Ijmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest of NL	Sleswig-Holstein	Hamburg	N Niedersachsen	W Niedersachsen	SE Niedersachsen	Bremen	N Nordrhein-Westphalen	Ruhrgebiet	SW Nordrhein-Westphalen	Berlin	Mecklenburg-Vorpommern	Brandenburg	Sachsen-Anhalt	Sachsen	Denmark	Belgium	Norway	Latvia	Poland	Russia	TOTAL
N Drenthe																																		0
SE Drenthe																																		0
SW Drenthe																																		0
Overig NZK-geb.																																		0
Ijmuiden/Velsen		660														4.680	22.922	1.716	4.280															34.258
Aggl. Haarlem																																		0
Zaanstreek																																		0
Ov. Groot-A'dam																		560																560
Amsterdam		410												945	1.010	640	3.358	24.801	700						478	61.707								94.049
Ov. Groot-Rijnm.																																		0
Overig Rijnm.																																		0
Rotterdam																	70.396	35.787					1.597	2.050		50.802					760	501		161.893
Rest of NL		10.105																																10.105
Sleswig-Holstein																																		0
Hamburg																																		0
N Niedersachsen																																		0
W Niedersachsen									8.698			14.348																						23.046
SE Niedersachsen							2.990					500																						3.490
Bremen																																		0
N Nordrhein - Westphalen																																		0
Ruhrgebiet																																		0
SW Nordrhein-Westphalen																																		0
Berlin																																		0
Mecklenburg-Vorpommern																																		0
Brandenburg																																		0
Sachsen-Anhalt									5.428			3.873																						9.301
Sachsen																																		0
Denmark																																		0
Belgium																																		0
Norway																																		0
Latvia																																		0
Poland																																		0
Russia																																		0
TOTAL	0	11.175	0	0	0	0	2.990	0	14.126	0	0	18.721	0	945	1.010	5.320	96.676	62.864	4.980	0	0	0	1.597	2.050	478	112.509	0	0	0	0	760	501	0	336.702

Table A4.15 Containers IWT freight by origin/destination in 2006 (tons)

No containers are transported by IWT on the corridors analysed

Table A4.16 Dry bulk IWT freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	Ijmuiden/Velsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest of NL	Sleswig-Holstein	Hamburg	N Niedersachsen	W Niedersachsen	SE Niedersachsen	Bremen	N Nordrhein-Westphalen	Ruhrgebiet	SW Nordrhein-Westphalen	Berlin	Mecklenburg-Vorpommern	Brandenburg	Sachsen-Anhalt	Sachsen	Denmark	Belgium	Norway	Latvia	Poland	Russia	TOTAL
N Drenthe																																	0
SE Drenthe																					253												253
SW Drenthe																																	0
Overig NZK-geb.																	1.610																1.610
Ijmuiden/Velsen																	2.860	1.529	11.986														16.375
Aggl. Haarlem																																	0
Zaanstreek																	379																379
Ov. Groot-A'dam																																	0
Amsterdam														2.083	1.050	8.075	292.977	47.328	22.774				1.633	800	4.325	125.961	467					600		508.073
Ov. Groot-Rijnm.																									951								951
Overig Rijnm.																																	0
Rotterdam																8.657	227.534	39.351	45.988				707		16.908	66.516	500						406.161
Rest of NL		12.758																															12.758
Sleswig-Holstein																																	0
Hamburg																																	0
N Niedersachsen																																	0
W Niedersachsen				3.748	5.968		1.316	6.139	46.878		63.371	45.827																					173.247
SE Niedersachsen					844		7.092		2.980		1.000	23.753																					35.669
Bremen					2.114				2.028			1.050																					5.192
N Nordrhein - Westphalen		48.369																															48.369
Ruhrgebiet		722																															722
SW Nordrhein-Westphalen		300																															300
Berlin							1.113		4.389																								5.502
Mecklenburg-Vorpommern												2.420																					2.420
Brandenburg					887				660			2.533																					4.080
Sachsen-Anhalt							65.624		30.614			85.815																					182.053
Sachsen																																	0
Denmark												834																					834
Belgium																																	0
Norway																																	0
Latvia																																	0
Poland																																	0
Russia																																	0
TOTAL	0	62.149	0	3.748	9.813	0	75.145	6.139	87.549	0	64.371	162.232	0	2.083	1.050	16.732	525.360	88.208	80.748	0	253	0	2.340	800	22.184	192.477	967	0	0	0	0	600	0	1.404.948

Table A4.17 Liquid bulk IWT freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IjmuidenVelsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest of NL	Sleswig-Holstein	Hamburg	N Niedersachsen	W Niedersachsen	SE Niedersachsen	Bremen	N Nordrhein-Westphalen	Ruhrgebiet	SW Nordrhein-Westphalen	Berlin	Mecklenburg-Vorpommern	Brandenburg	Sachsen-Anhalt	Sachsen	Denmark	Belgium	Norway	Latvia	Poland	Russia	TOTAL
N Drenthe																																		0
SE Drenthe																																		0
SW Drenthe																																		0
Overig NZK-geb.																																		0
Ijmuiden/Velsen																			1.254						1.010									2.264
Aggl. Haarlem																																		0
Zaanstreek																																		0
Ov. Groot-A'dam																																		0
Amsterdam																	15.894	900						1.350	4.010		1.100							23.254
Ov. Groot-Rijnm.																																		0
Overig Rijnm.																																		0
Rotterdam		1.040												2.600	1.732		127.557	18.497	2.389						2.330	3.286								159.431
Rest of NL																																		0
Sleswig-Holstein									2.468																									2.468
Hamburg												962																						962
N Niedersachsen																																		0
W Niedersachsen									71.930			25.847																						97.777
SE Niedersachsen									8			2.893																						2.901
Bremen									1.238																									1.238
N Nordrhein - Westphalen																																		0
Ruhrgebiet																																		0
SW Nordrhein-Westphalen																																		0
Berlin																																		0
Mecklenburg-Vorpommern																																		0
Brandenburg																																		0
Sachsen-Anhalt									3.387			1.744																						5.131
Sachsen																																		0
Denmark																																		0
Belgium																																		0
Norway																																		0
Latvia																																		0
Poland																																		0
Russia																																		0
TOTAL	0	1.040	0	0	0	0	0	0	79.031	0	0	31.446	0	2.600	1.732	0	143.451	19.397	3.643	0	0	0	0	1.350	7.350	3.286	1.100	0	0	0	0	0	0	295.426

Table A4.18 General cargo IWT freight by origin/destination in 2006 (tons)

region name	N Drenthe	SE Drenthe	SW Drenthe	Overig NZK-geb.	IjmuidenVelsen	Aggl. Haarlem	Zaanstreek	Ov. Groot-A'dam	Amsterdam	Ov. Groot-Rijnm.	Overig Rijnm.	Rotterdam	Rest of NL	Sleswig-Holstein	Hamburg	N Niedersachsen	W Niedersachsen	SE Niedersachsen	Bremen	N Nordrhein-Westphalen	Ruhrgebiet	SW Nordrhein-Westphalen	Berlin	Mecklenburg-Vorpommern	Brandenburg	Sachsen-Anhalt	Sachsen	Denmark	Belgium	Norway	Latvia	Poland	Russia	TOTAL
N Drenthe																																		0
SE Drenthe												1.020	300																					1.320
SW Drenthe																																		0
Overig NZK-geb.																																		0
Ijmuiden/Velsen																		40.742																40.742
Aggl. Haarlem																	59.125																		59.125
Zaanstreek																																		0
Ov. Groot-A'dam																																		0
Amsterdam																	20.608	6.018	1.020				3.852		1.140	5.369	433					812		39.252
Ov. Groot-Rijnm.																																		0
Overig Rijnm.																	900																	900
Rotterdam															625	600	21.205	5.705	19.012				2.781	250	4.576	29.187		500		1.240				85.681
Rest of NL		320																																320
Sleswig-Holstein																																		0
Hamburg																																		0
N Niedersachsen																																		0
W Niedersachsen									6.715		710	50.850																						58.275
SE Niedersachsen					2.115							6.542																						8.657
Bremen					841							3.008																						3.849
N Nordrhein - Westphalen		400																																400
Ruhrgebiet																																		0
SW Nordrhein-Westphalen																																		0
Berlin												2.125																						2.125
Mecklenburg-Vorpommern												797																						797
Brandenburg												10																						10
Sachsen-Anhalt					25		940		948			20.226																						22.139
Sachsen					21							909																						930
Denmark																																		0
Belgium		805																																805
Norway																																		0
Latvia																																		0
Poland																																		0
Russia																																		0
TOTAL	0	1.525	0	0	3.002	0	940	0	7.663	0	710	85.487	300	0	625	600	101.838	52.465	20.032	0	0	0	6.633	250	5.716	34.556	433	500	0	1.240	0	812	0	325.327

Tables TCI

TCI has analysed freight flows originating in Northern Germany. Their tables are included below, by mode and commodity. Data are in 1000 tons, values of 2007.

Road					
General Cargo					
2007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	14	2	2	54	114
Bremen	129	5	10	186	581
Wilhelmsh.	5	1	2	25	2
North_GER	1.664	154	247	3.679	1.372
Rest GER	721	235	403	7.205	

Road					
Bulk					
2007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	1	0	0	7	3
Bremen	23	2	3	63	25
Wilhelmsh.	5	2	4	46	1
North_GER	2.141	147	130	2.116	295
Rest GER	659	504	793	13.621	

Road					
Mineral Oil Products					
2007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	8	-	-	1	27
Bremen	18	-	-	0	0
Wilhelmsh.	4	-	-	0	0
North_GER	126	-	-	23	88
Rest GER	31	-	-	54	

Road					
Chemical Products					
2007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	3	0	0	5	32
Bremen	21	1	2	46	24
Wilhelmsh.	17	2	2	40	4
North_GER	440	32	43	764	614
Rest GER	245	93	133	3.519	

Road					
Container/Swapb.					
2007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	38	2	4	107	329
Bremen	117	3	5	117	418
Wilhelmsh.	3	0	0	8	15
North_GER	557	57	100	2.339	2.460
Rest GER	439	217	376	11.229	

0

Road					
Total					
2007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	64	4	7	174	505
Bremen	309	12	20	411	1.048
Wilhelmsh.	33	5	8	120	22
North_GER	4.927	391	520	8.921	4.829
Rest GER	2.096	1.049	1.704	35.628	

Rail					
General Cargo					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	-	-	-	1	95
Bremen	0	-	-	2	440
Wilhelmsh.	-	-	-	-	-
North_GER	6	2	-	226	1.001
Rest GER	24	8	33	925	

Rail					
Bulk					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	-	-	-	-	7
Bremen	0	-	-	19	15
Wilhelmsh.	-	-	-	-	-
North_GER	18	-	-	39	54
Rest GER	308	204	-	565	

Rail					
Mineral Oil Products					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	55	-	-	0	2
Bremen	-	-	-	-	-
Wilhelmsh.	8	-	-	-	-
North_GER	186	-	-	0	9
Rest GER	26	-	-	268	

Rail					
Chemical Products					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	-	-	-	-	0
Bremen	-	-	-	-	-
Wilhelmsh.	-	-	-	-	-
North_GER	0	-	-	65	93
Rest GER	17	-	-	644	

Rail					
Container/Swapb.					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	-	-	-	2	2
Bremen	0	-	-	-	-
Wilhelmsh.	-	-	-	-	-
North_GER	2	24	-	-	5
Rest GER	125	40	7	504	

Rail					
Total					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	55	-	-	4	106
Bremen	1	-	-	20	455
Wilhelmsh.	8	-	-	-	-
North_GER	213	26	-	330	1.163
Rest GER	502	252	41	2.906	

IWW					
General Cargo					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	1	-	-	4	7
Bremen	3	-	1	116	257
Wilhelmsh.	-	-	-	-	-
North_GER	63	1	37	448	361
Rest GER	7	18	85	6.261	

IWW					
Bulk					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	6	-	-	2	-
Bremen	21	-	1	142	38
Wilhelmsh.	-	-	-	-	-
North_GER	311	-	41	343	177
Rest GER	175	317	1.219	13.613	

IWW					
Mineral Oil Products					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	29	-	-	2	-
Bremen	4	-	-	-	-
Wilhelmsh.	-	-	-	-	-
North_GER	44	-	-	42	49
Rest GER	90	-	28	2.107	

IWW					
Chemical Products					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	-	-	-	0	0
Bremen	5	-	-	1	1
Wilhelmsh.	-	-	-	-	-
North_GER	300	-	75	79	244
Rest GER	55	5	53	3.774	

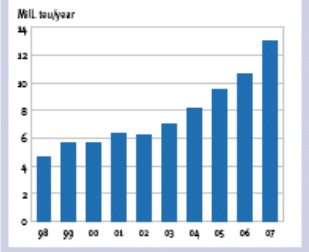
IWW					
Container/Swapb.					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	-	-	-	8	0
Bremen	11	-	-	-	-
Wilhelmsh.	-	-	-	-	-
North_GER	19	10	-	-	4
Rest GER	51	92	18	3.388	

IWW					
Total					
2.007					
from\to					
[1.000 tons p.a.]	Emsland	Drenthe	North_NL	Rest_NL	SW Europe
Hamburg	36	-	-	16	7
Bremen	44	-	3	260	296
Wilhelmsh.	-	-	-	-	-
North_GER	737	11	152	912	835
Rest GER	377	433	1.403	29.144	

Future freight flows

Recent developments that contribute substantially to the increase of the transportation of containerized goods are the outsourcing of production to Asia. This results in more transport and more standardized packing (containers) as is illustrated in the next figure.

Figure A4.0.2 Asia-Europe container trade, 1998-2007 (in million TEU/Year)



Source: The Platou report 2008

Another development that contributes substantially to the increase of transport activities is the expansion of the EU. As a result the intra-European flow of goods increases. Due to the low costs of road transport offered by these new EU-countries road transport has increased its share in intra-European traffic.

The Netherlands and the Northern Region

Also in the Netherlands the transport of goods is expected to grow in the years to come. In the Nota Mobiliteit a growth of 40-80% in freight transport is foreseen in the period until 2020. Recently new scenarios have been developed named Welvaart en Leefomgeving (WLO). These scenarios comprise the developments in mobility until the year 2040. In all scenarios container transport will further increase. Road and rail will benefit most, whereas inland shipping will loose market share as a results of the limited growth of bulk.

Key assumptions of the WLO scenarios

The four scenarios are concentrated along the axes of two key uncertainties: public versus private, and national versus international. Below picture shows this.

Strong Europe (SE)

- Strong international cooperation
- Reform of social security system and of EU system
- EU becomes important world player
- Solidarity and equal incomes

Global Economy (GE)

- EU expands eastward
- Successful WTO, international cooperation
- Own responsibility of individuals
- Strong global economic integration
- Highest growth of welfare and of population

Regional Communities (RC)

- Countries stick to national sovereignty, no EU reform, no successful international trade agreements.
- No reform of the collective sector, aim to equal incomes
- Relatively high unemployment, low growth of labour productivity, lowest overall growth.

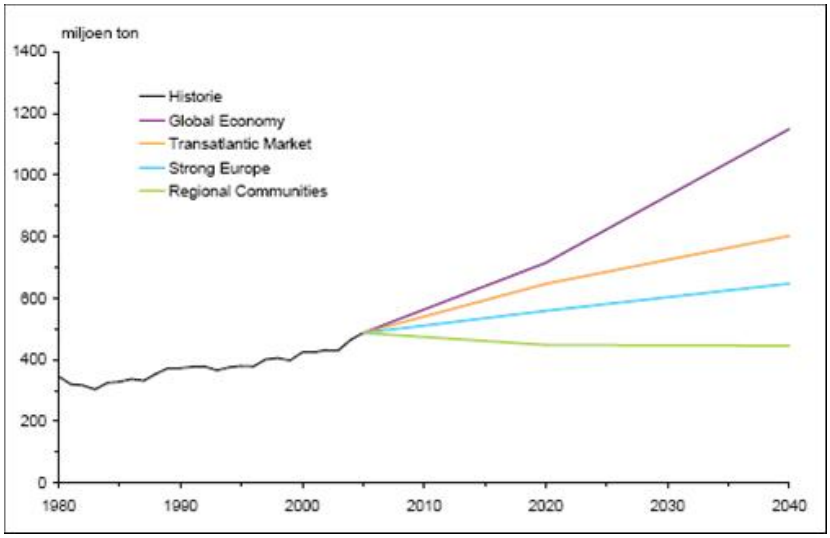
Transatlantic Market (TM)

- Reform of collective sector, public social security system downsized
- Countries stick to national sovereignty, but increased ties to USA
- Increased labour participation,
- Higher income growth than SE, lower population growth.

Furthermore assumptions are made on the level of economic growth, population, technological trends, etc.

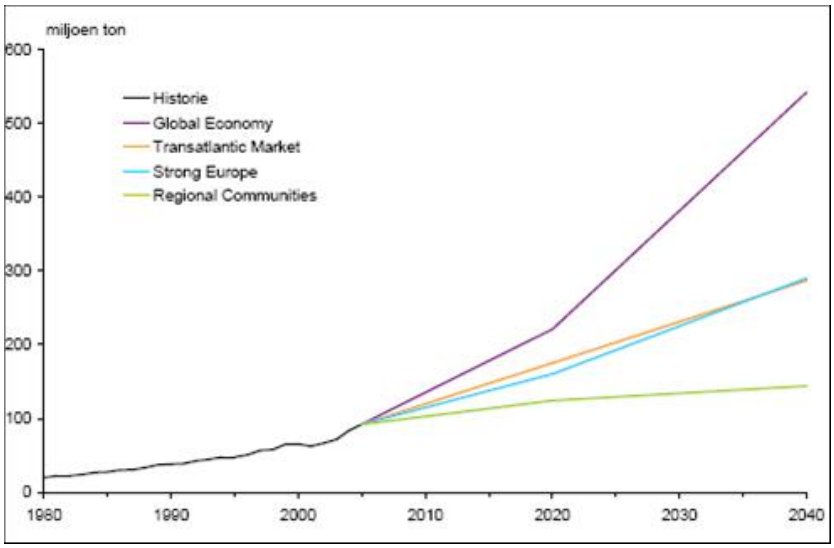
Source: CPB; elaboration ECORYS

Figure A4.0.3 Total throughput in Dutch seaports in the WLO scenarios



Source: CPB Memorandum nr 172, December 2006

Figure A4.0.4 Transhipment of containers in Dutch seaports in the WLO scenarios



Source: CPB Memorandum nr 172, December 2006

Based on the Strong Europe scenario it is expected that in the period 2002-2040 the volume of goods transferred in the Dutch ports is expected to grow with 50% (table 2.1). The main reason is that container transport is believed to increase considerably: in 2040 the volume of containers handled in Dutch ports might arrive at 290 million tons, which is almost 5 times the volume in 2002 (around 66 million tons). Nearly all of the containers are and will be handled by the port of Rotterdam (table 2.2).

Table A4.19 Developments in the throughput of goods (million tonnes) in Dutch seaports according to the Strong Europe scenario

	2002	2005	2020	2040
Total throughput	432	487	559	646
Share of Rotterdam	320	370	425	491
Container throughput	66.4	91.8	160	290
Share of Rotterdam	66.1	91.1	157	285

Source: CPB (2006), modified WLO scenario's for freight transport

For the Province of Drenthe the national WLO scenarios have been translated[31] to scenarios for inland shipping. The results are listed in the next table for the scenarios Global Economy (GE) and Regional Communities (RC) since these two scenarios represent the upper and lower boundaries of future developments. It is expected that the transport of containers by inland shipping will grow in both the upper and lower scenario. The transport of animal feed (veevoeder) by inland shipping will decrease in both scenarios, while container flows are the driver behind the positive growth figures.

Table A4.20 Yearly growth figures for inland water transport in the province of Drenthe, period 2010-2020 in two scenario's

	Aanvoer		Afvoer	
Belangrijkste goederensoorten	GE	RC	GE	RC
Landbouwproducten (bulk)	2,5	0,3	1,6	-1,1
Veevoeder (bulk)	-0,3	-1,7	-0,3	-1,9
Ruwe mineralen, bouwmaterialen	1,6	0,5	1,2	-0,3
Containers	3,8	1,6	5,0	2,1
Totaal	1,4	-0,2	3,9	1,5

Bron: WLO prognoses voor het goederenvervoer (AVV), bewerking ECORYS

Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe

[31] In a study on the Meppelerdiepkeersluis conducted by ECORYS.

Annex 5: Developments in business sites, terminals and ports

Available business locations in Coevorden and Emmen

Both on the Emmtec premises in Emmen (see Bargermeer in the next table) and ROC premises in Coevorden there is enough space available for future expansions for companies. The new ROC port in Coevorden has also recently started. Reservations of wet industrial estate in Coevorden should be made available for those business activities which really need such connections.

Table A5.1 Available wet estate in Drenthe

Gemeente	Kern	terrein	Omvang netto (ha.)	Uitgegeven (ha.)	Totaal uitgeefbaar (ha.)
Meppel	Meppel	Buitenhaven e.o./Oude vaart	5	5	0
Meppel	Meppel	Bedr Ter Oevers ABC	84,1	82,9	1,2
Meppel	Meppel	Nat Ind Ter Oevers D	37,4	18,9	18,5
Meppel	Meppel	Oevers E	7,1	0	7,1
Coevorden	Coevorden	Heege West	60	40	20
Coevorden	Coevorden	ROC (onderdeel van Europark)	17	7	10
Coevorden	Coevorden	Leeuwerikenveld	53,8	53,8	0
Emmen	Emmen	Bargermeer	514	472	50
Emmen	Nw Amsterdam	Tweeling Oost	30	30	0
Emmen	Veenoord	Tweeling West	10,8	4,82	5,98
Hoogeveen	Hoogeveen	Industriehaven/ De Wieken	25	25	0
Assen	Assen	Stadsbedrijvenpark Havenkade/ Havenkanaal	150	141	9

Bron: IBIS, 2007

Source: Netwerkanalyse vaarwegen en binnenhavens Drenthe

Developments in sea ports[32]

Due to the expected strong increase in container transport, the Port of Rotterdam and Amsterdam want to stimulate container transport by inland shipping. With the help of (trimodal) inland terminals the handling of ships must be improved. Rotterdam analyses the possibilities for a container transferium eastwards of the port. Due to increasing volumes of containers via Rotterdam, the Port of Rotterdam has taken the initiative to realise a Container Transferium in Alblasserdam. Containers arriving on Maasvlakte 1 en

[32] Source: NOA eindrapport

2 of the port will be transferred from the sea ships to inland vessels. The inland vessels navigate to the container transferium. The advantage is that less trucks need to use the A15, resulting in less congestion for the other road users. The new transferium will not replace other inland terminals. The transferium is needed due to the expected increase in containertransport.

Sea ports in the Northern region of The Netherlands have problems in finding return freight (the import streams are bigger than the export streams):

- Groningen Seaports sees opportunities in Scandinavia (import of wood and paper). The Baltic States and Poland offer fewer opportunities due to cheap transport by road and the fact that the economic important places in Poland are located in the centre and south of the country. Also the heavy competition with Germany diminishes the opportunities for the Baltic States and Russia. The export through the Groningen Seaports exists primarily of bulk (salt and sugar) aimed at Northwest Europe. In the future Groningen Seaports wants to concentrate more on freight from the local industry in order to create more return freight. Groningen Seaports also wants to work together with the port in Niedersachsen (Emden and Willemshaven) as a gateway to the north-south corridor (for example the transport of chlorine for the PVC industry).
- At the terminal of Harlingen the export volumes are less (mainly salt for Scandinavia) than the import volumes (stone, gravel, marble). Due to lack of large shippers in the region and as a result lack of return freight, shipping companies are not interest in Harlingen, instead Rotterdam is chosen. The dryport of Emmen-Coevorden might consider cooperation with Harlingen by providing return cargoes, making the use of Harlingen more attractive for shipping companies.
- The container terminal of Delfzijl imports bulk products from Poland for the local industry around Delfzijl and products of wood from the north of Russia and Scandinavia. From there it is transported to Germany and the Benelux. However the imported amounts have decreased significantly. A bottleneck for Delfzijl is the lack of return freight: large freight flows do not pass the northern region of The Netherlands and there is increased competition of relatively cheap (road) transport from East Europe.

The “Northern Maritime Corridor” offers new opportunities for short sea however. This maritime corridor connects the coastal areas of the North Sea (UK, The Netherlands, Belgium) with Scandinavia and Germany. It connects twenty regions in eight countries. Goal of this maritime corridor is to realise efficient, safe and sustainable transport of goods between coastal areas to contribute to regional development of the North Sea region and the peripheral northern regions. This project must also result in a shift of transport from road to water. Groningen Seaports and Harlingen have therefore increased the capacity of their ports during the last years and industrial park areas have increased.[33]

No information is found regarding developments in North German ports.

Developments in neighbouring inland ports

The Multimodal Container Services (MCS) in Meppel started in 1994 and comprises the transport of containers by inland shipping from the port of Rotterdam or Antwerpen to

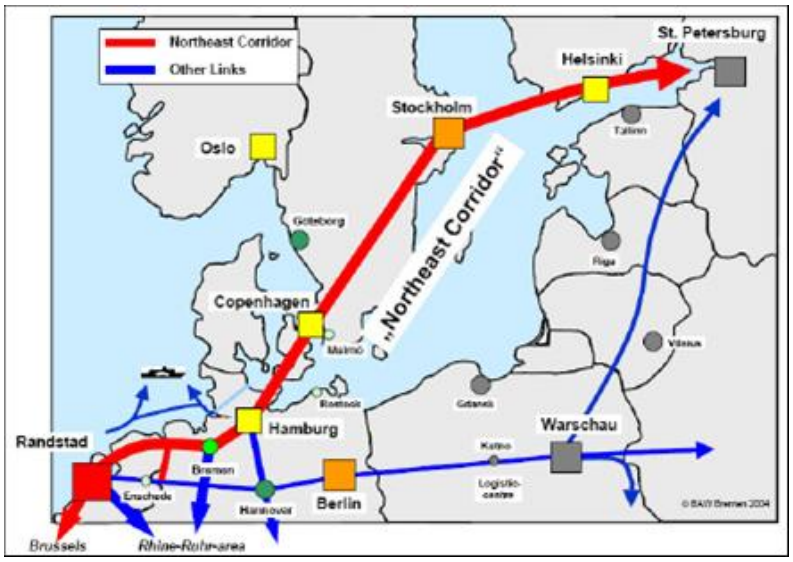
[33] Actieprogramma goederenvervoer Noord-Nederland, eindrapport.

Meppel. After arrival in Meppel, the goods are transported by truck to their final destinations. MCS was initiated by a Group of entrepreneurs from Meppel in cooperation with the city of Meppel and helped by the port of Rotterdam (technical know how). In the period 1999-2002 the transhipment grew strong to 50.000 TEU/year. In recent years this amount has increased only little (due to decreasing prices in road transport). The hinterland of the terminal has a radius of around 50 km (Zwolle – Emlichheim – Coevorden – Drenthe – Friesland)[34]. Since 2004 MSC has its own truck planner as well as 7 truck drivers and an own fleet of trucks. This has been done for multiple reasons: to lower the tariffs for road transport, to be flexible in case of urgent shipper requests, to improve the coordination between barge planning and planning of road transport and to skip the difficult yearly negotiations[35].

Regional policy

The Northern Region of The Netherlands wants to strengthen their position on the Northeast Corridor (NOA, the 'Noordelijke Ontwikkeling As'). This is the corridor that connects the Randstad in the west of The Netherlands through the north of The Netherlands with Northern Germany, Scandinavia, the Baltic and Russia. The infrastructure network between Groningen-Assen and Emmen-Coevorden region are important links in the NOA.

Figure A5.0.1 The Northeast Corridor/ NOA (noordelijke ontwikkelings as)



Source: Opzet Buck versterking logistieke positie Noord-Nederland

In order to strengthen the position of freight transport in the region four themes have been identified by the four Provinces in the northern part of The Netherlands [36]:

1 Make optimal use of the position of the region on the NOA, given the fact that the region is located in between the ports of Rotterdam and Hamburg;
2 Increasing investments from Asia/China and increasing freight transport offer opportunities (storage and distribution of goods coming from the Far East);

[34] Best Practices Hinterlandverbindingen Havens
[35] Best Practices Hinterlandverbindingen Havens
[36] Kadernotitie NOA

3 Possibility to offer logistic services for the expensive mainports (ground is relatively cheap in the northern region);
4 Make better use of comparative work force advantages, in cooperation with the knowledge centres in the area. The quality of the services needs to be supported by high quality education facilities.

(Future) projects

In order to improve logistics in the Northern part of the Netherlands 4 projects have been identified that are likely to start in 2009[37]:

- *Logistic bidbook*; objective is to quantify the cargo potential in the region. To do so detailed knowledge on freight flows for individual companies is required.
- *Northern Region as an import region for China/Asia*; a mission to China with the aim to identify opportunities and effects for the north of The Netherlands.
- *Port in sight*; a discussion with the mainports and inland ports in potential regions with the aim to develop smart integrated maritime chain concepts.
- *Logistic House Northern-Netherlands*; strengthen the cooperation between knowledge institutions and businesses, with the aim to improve the quality of logistic education.

Both regional governments as well as regional businesses will participate in these projects. With regard to the project 'Northern Region as an import region for China/Asia' it is mentioned that this means competition will arise with cheaper, more decentralized regions in Belgium and France. This competition can be won if the region can distinguish itself by performance[38].

Logistic centre IJsselmuiden (Province Overijssel)

The Greenery is currently looking into the possibilities for a new logistic centre in IJsselmuiden in the Province of Overijssel[39]. The new logistic centre aims at the German and Scandinavian countries. According to Jelte van Kammen (raw material director) there is much to win for logistics in the North of The Netherlands.

Intermodal Transport Promotion Center Bremen[40]

In 2005 the Intermodal Transport Promotion Centre Bremen is raised. Goal of this Centre is to promote the possibilities of intermodal freight transport. The effect of the centre is not known yet. Maybe the centre offers possibilities for Emmen-Coevorden to promote their dryport.

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37 Kadernotitie NOA and Concept oplegbrief GS bij rapportage Buck
38 Source: Opzet Buck versterking logistieke positie Noord-Nederland
39 Source: Nieuwsblad Transport, 31-10-2008.
40 Source: Best practices Hinterland Connections

Annex 6: Glossary

- CBS: Centraal Burau voor de Statistiek (Netherlands Statistics Agency)
- COROP: Coördinatie Commissie Regionaal OnderzoeksProgramma (regional zoning system in the Netherlands)
- CSI: Container Security Initiative
- CPB: Centraal Planbureau (Dutch National Planning Agency)
- ECT: Europe Combined Terminals (terminal operator in Port of Rotterdam)
- EU: European Union
- ICT: Information and Communication Technology
- ISPS: International Ship and Port facility Security code
- IWT: Inland Waterway Transport
- NE: North East
- NOA: Noordelijke Ontwikkelings As
- NW: Nijhof Wassink
- OD: Origin-Destination pair
- RSC: Rail Service Centre (Rail terminal in Rotterdam)
- ROC: Regionaal Overslag Centrum (Regional terminal)
- SE: South East
- SME: Small and Medium sized Enterprises
- SW: South West
- SWOT: Strengths, Weaknesses, Opportunities, Threats
- TEU: Twenty Foot Equivalent Unit, standard container size
- VAL: Value Added Logistics
- VAS: Value Added Services

Country codes (in maps chapter 3):

- NO: Norway
- SE: Sweden
- FI: Finland
- PL: Poland
- DE: Germany
- NL: Netherlands
- IT: Italy
- RU: Russia
- DK: Denmark
- BE: Belgium

Economic scenarios (in chapter 3):

- RC: Regional Communities
- SE: Strong Europe
- TM: Transatlantic Markets
- GE: Global Economy

Annex 7: Workshop participants

Organization	Name
Bentheimer Eisenbahn	K. Abels
Coevorden	Wethouder G. Braam
De Nieuwe Veste Coevorden	B. Karstenberg
Den Hartogh Liquid Logistics	B. Schreurs
DGO Express BV	J. Wassens
DGO Express BV	G. Verver
ECORYS	J. Gille
ECORYS	J. Bozuwa
ECT Delta Terminal	J. Nater
Emmtec Services	G. Siebum
Emsländische Eisenbahn	U. Brinkman
Europark Coevorden-Emlichheim	D. Lindschulte
Fachhochschule Osnabruck.	S. Deutler
gem Emmen	W. Couprie
gemeente Coevorden	H. Oortmann
Gemeente Coevorden	Wethouder Roeles
gemeente Emmen	H. de Jong
gemeente Emmen	D. van Heeteren
Gemeente Emmen	G. Feringa
Gemeente Emmen	B. Krikken
Gemeente Emmen	Wethouder Evenhuis
Gemeente Emmen	Wethouder Holman
gemeente Emmen	P. Stoker
gemeente Hardenberg	L. Zwart
Gemeinde Spelle	S. Saendher
Graaco - Euroterminal	G.J. Brooksnieder
Graaco Covorden	B. Blog
Harlingen Sea Port	J. van den Ende
Kroese Wevers Accountants	J.T. Blaauwgeers
Kuper Douaneservice	R. van Oosten
Kuper Douaneservice	W. Helder
Landkreis Emsland	H. Rolfes
Lubbers Logistics	M. Keuris
MCS (Meppel)	N. Visser
Nederland Distributieland	J.P. Olijslager
Nijhof Wassink BV	G. Nijmeijer
NOM NV	A. Rombout
ProRail Capaciteitsmanagement	P. Lautenbach

Organization	Name
provincie Drenthe	J. Hartsuiker
Provincie Drenthe	S. Runsink
Provincie Drenthe	J.H. Bats
provincie Drenthe	M. Courtz
Trans4	S. Romkema
Transpa Emmen	A. Waninge
Transport Logistiek Nederland	R. Reinsma
Wetra Distribution Centre	F. Wever
Wigchers Int. Transport	L. Wigchers
Wigchers Int. Transport	H. Smit-Wighers
Wigchers Int. Transport	J. Wighers