Characteristics of Northern Brabant

Northern Brabant, with 's-Hertogenbosch as its capital, is one of the three provinces in the south of the Netherlands. With a surface area of 5100.24 km² (12,3% of the total of The Netherlands) and with 2.391.123 inhabitants (15% of the Netherlands), Brabant is one of the biggest provinces of the Netherlands. The cities of Eindhoven, Tilburg and Breda lie Adjacent to 's-Hertogenbosch. The south of the Netherlands would appear to be very popular for transport enterprises. More than 38 percent is situated in the south. Of all the companies in the south 53 percent is situated in Northern Brabant. These companies have different sizes. 18 percent of total companies and 21 percent of the biggest companies are seated in Northern Brabant. The provinces of Zeeland, Zuid-Holland, Gelderland en Limburg and the country Belgium, surround Northern Brabant and are accessible by way of different kinds of infrastructure; For example via the rivers Maas, Waal and various other rivers and canals, the direct connection to the North sea through the Nieuwe Waterweg, the intensive road en motorway structure to the inland and foreign countries and last but not least the good railway network to different districts.

Logistic flows

The transport sector in Northern Brabant can be structured in different ways, for example commodity groups, transport in and outside the Netherlands and different modes of transport.

Commodity Groups.

In Table 1 a division is made of the different commodity groups. In this chart the total transport modes are split into different commodity groups. As you can see, building minerals & material, Machinery & other manufacturing and Foodstuffs account for more than 70 percent of the total goods transported.

Table 1
Commodity Groups Northern Brabant

Ores, metal waste	2%
Metal products	3%
Crude oil	0%
Solid mineral fuels	1%
Foodstuffs	20%
Agricultural products	10%
Petroleum products	2%
Machinery & other manufacturing	21%
Chemicals	8%
Fertilisers	3%
Building minerals & material	30%

Transportation within the Netherlands.

Goods are are transported from Northern Brabant to different provinces in the Netherlands and to different countries in Europe and further. In are given the carriage is coming.

Table 2
Transport within the Netherlands with origin or destination in Northern Brabant.

(in Ton)		
	Origin	**Destination**
Groningen	838055	716216
Friesland	504346	1005445
Drenthe	388774	864795
Overijssel	1142438	1898685
Gelderland	5831448	7572344
Flevoland	1014398	855702

Utrecht	1720460	2730845
Noord-Holland	4605117	4429252
Zuid-Holland	8086176	10494272
Zeeland	3131971	2101586
Limburg	9969794	5829135

Noord-Brabant

Total transport in Northern Brabant (ton)	173726563
Total transport within Northern Brabant (ton)	53729036
Percent within Brabant/total Brabant	31%

As can be seen in Table 2 a large amount of the goods transported to Brabant from another province are coming from the provinces Zuid-Holland and Limburg. This is due to the Port of Rotterdam being situated in Zuid-Holland Limburg is situated next to Belgium and more importantly Germany. The majority of the goods transported from Brabant to another province have their destination in Zuid-Holland (also due to the Port of Rotterdam) and Gelderland.

A large amount (31 percent) of the total transport in Brabant stays in Brabant. Of this amount 34 percent consists of the transportation of Building minerals & Material and 23 percent consists of the transportation of Machinery & other Manufacturing equipment(see Table 3)

Table 3
Commodity group of transport within Brabant

Commodity group	**Ton**	**Percent**
Agricultural products	4327868	8%
Foodstuffs	10672733	20%
Crude oil	28321	0%
Ores, metal waste	302716	1%
Metal products	613325	1%
Building minerals & material	18369611	34%
Fertilisers	1338965	2%
Chemicals	4166426	8%
Machinery & other manufacturing	12475252	23%
Petroleum products	1433819	3%

But not all the goods transported to or from Northern-Brabant stays in the Netherlands. In fact, 25 percent of the total amount of goods transported within Northern Brabant will be going abroad. See Table 4.

Table 4

Total transport divided in inland and foreign transportation

	Ton	Percent
Total transport to or from the other provinces	129460290	75%
Total transport to or from foreign countries	44266273	25%
Total transport in Northern Brabant (ton)	173726563	100%

Transportation within Northern Brabant

As can be seen in the paragraph above 53.729.036 tons of goods are transported within Northern Brabant. In Table 5 can be seen the distribution of the total transport within Northern Brabant. In northeast Brabant 35% of total transport is in this region and only 1,8% is transported in Moerdijk. All these goods do of course have a destination

Table5
Distribution of total transport within Northern Brabant

Region	Percent
West Northern-Brabant	22,5%
Moerdijk	1,8%
Mid Northern-Brabant	18,2%
North-East Northern-Brabant	35,0%
South-East Northern-Brabant	22,5%

Transportation to and from other countries

The total transport can be divided in three pieces:

- Origin
- Destination
- Transhipment

First there'll be an examination on the origin, then the destination followed by transhipment.

Origin

The different kinds of goods come from different places all over the world. Table 6 shows that most of the goods have thier origin in the Netherlands itself (83% of total transportation), Belgium & Luxembourg (44,5% of total foreign transportation), Germany (20,6%) and France (10,5%).

Table 6
Origin goods in Northern Brabant

	Ton (total Transported)	**Percent**
France	1957397	10,46%
Belgium & Luxembourg	8333590	44,51%
Germany	3854154	20,59%

Italy	664817	3,55%
United Kingdom	1099581	5,87%
Rest of Europe and the world	2921795	15,59%
Subtotal	**18721052**	**16,87%**
Netherlands	92227313	83,13%
Total	**110948365**	**100,00%**

Destination

The different kinds of goods that are transported to Northern Brabant all have diverse destinations. See Table 7 which, similar to Table 6 presents the origin of the transported goods, and shows that most goods have their destination in the Netherlands (80%). The three other important destinations are Belgium & Luxembourg, France and Germany and that those 4 countries are the most important trade partners of Northern Brabant.

Table 7
Destination goods in Northern Brabant

	Ton (total Transported)	**Percent**
France	2880589	13,00%
Belgium & Luxembourg	7386098	33,35%
Germany	7286796	32,90%
Italy	382703	1,73%
United Kingdom	814172	3,68%
Rest of Europe and the world	3400159	15,33%
Subtotal	**22150517**	**19,58%**
Netherlands	90962013	80,42%
Total	**113112530**	**100,00%**

Transchipment

All goods have their origin and destination. Sometimes the goods are transported to Brabant only as a transhipment place. So not only their origin is from somewhere outside Northern Brabant but the destination also. In Table 8 you can see how many tonnes are transported through and to a transhipment place in Brabant from a defined origin to a defined destination.

The goods to be transhipped in Northern Brabant have for the largest part their origin in the United Kingdom (20% of total foreign origin), Norway (19%) and the Middle & South of America (13%). 52% of the total of goods for transhipment has it's origin in the Netherlands itself, including Brabant, which transhipped 153194 tons of product of it's own origin which was 8 percent of total transhipment in the Netherlands.

The goods that will be transhipped in Northern Brabant have for the largest part their destination in Spain (19% of total foreign destination) and Turkey (also 19%). Of total transhipment 38% has got a destination in the Netherlands, including Brabant, which transhipped 488570 tons to a destination in Brabant itself, which comes to

35 percent of total transhipment in the Netherlands

Table 8
Origin and destination at transhipment in Brabant

In tons	Origin	Percent	Destination	Percent
France	76940	4%	106999	4%
Italy	78011	4%	25920	1%
United Kingdom	365251	20%	124603	5%
Spain	22546	1%	461668	19%
Norway	355894	19%	163183	7%
Russia	107544	6%	9107	0%
Estonia	127486	7%	1517	0%
Latvia	91058	5%	295	0%
Turkey	17615	1%	466457	19%
USA	20145	1%	208649	8%
Middle & South America	242344	13%	163938	7%
Japan	1151	0%	93896	4%
Middle Asia (Iraq, Iran, ...)	89712	5%	11402	0%
Rest of Asia (India, China, Taiwan...)	40899	2%	103658	4%
Rest of Europe and the world	232005	9%	515726	19%
Subtotal	**1870016**	**48%**	**2472652**	**64%**
Netherlands	2013745	52%	1411111	36%
Total	**3883761**	**100%**	**3883763**	**100%**

Total transport

As seen in Table9 74 percent of the total transportation in Northern Brabant is domestic, without any transhipment in Brabant. This domestic transportation consists of 42 percent inter-provincial moving within Brabant. The other 58 percent is domestic transportation to other provinces. 17 percent of total transportation is direct going to foreign countries and 4% has transhipment in Brabant. The remaining transportations have an unknown transhipment point.

Table 9
Distribution with regard to transhipment

Unknown transhipment	4%
Direct Transport, International	17%
With transhipment	5%
Direct Transport, Domestic	74%

Performance

The performance of the transport companies in Northern Brabant in relation to the other 12 provinces can be measured in different ways. Firstly the capacity utilisation will be monitored, secondly the costs and to conclude, the profitability .

Capacity utilisation

Capacity utilisation is an important aspect in the transport sector, where efficiency plays an essential role. The higher the capacity utilisation, the lower the costs and as a result a higher profit. Capacity utilisation can be measured in different ways. In this report the capacity utilisation will be measured by:

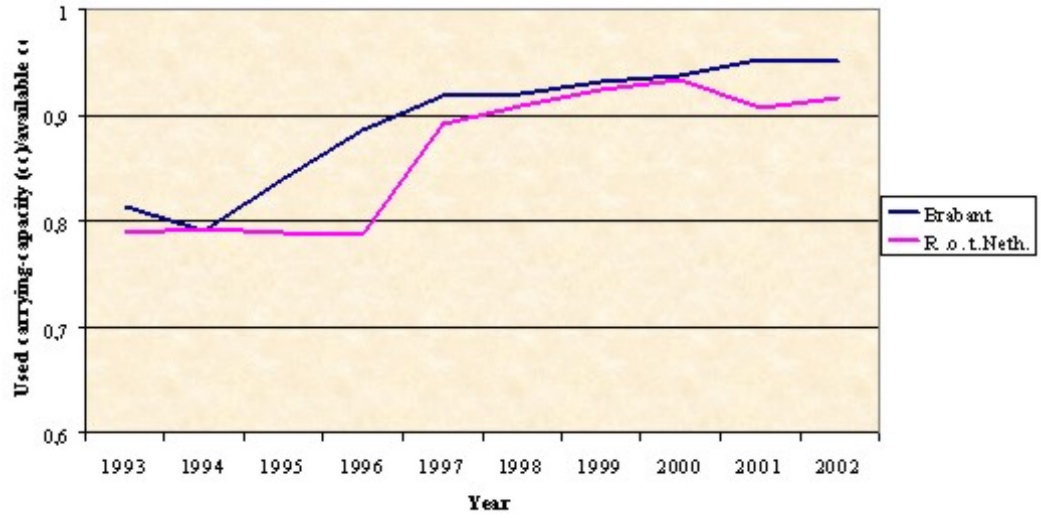
- Capacity utilisation distance = load kms/total kms
- Capacity utilisation contents = carried weight/set-in carrying-capacity
- Capacity utilisation carrying-capacity = used carrying-capacity (cc)/available cc

On capacity utilisation distance Brabant is performing better than the other 11 provinces. The Table 1 shows that Brabant has a capacity utilisation distance on total transport of 82,14 percent whereas the other provinces have a capacity utilisation distance of 80,2 percent. Despite this higher capacity utilisation on distance, the capacity utilisation of contents is lower in Brabant, namely 54,67 percent for Brabant and 56,42 percent for the other provinces. Although the difference seems to be minimal, the approximate 2 percent difference can be crucial for the competition position in relation to total costs. It is interesting to note that in all provinces in the Netherlands the capacity utilisations on distance as well as on contents are lower for inland transport than for international transport.

Table1
Capacity utilisation distance and contents

Companies in Northern-Brabant	Inland Transport	International Transport	Total Transport
Capacity utilisation distance	77,32%	85,88%	82,14%
Capacity utilisation contents	44,78%	60,04%	54,67%
Companies in other provinces	Inland Transport	International Transport	Total Transport
Capacity utilisation distance	75,93%	83,97%	80,20%
Capacity utilisation contents	48,86%	61,04%	56,42%

We can conclude from this, that the transport companies in Brabant are using their trucks on distance better than the other 11 provinces in the Netherlands. On contents Brabant is performing slightly less in relation to the rest of the Netherlands. Brabant transport companies are loading their trucks less efficiently resulting in less freight being carried per kilometre. Capacity utilisation carrying capacity is an important indicator with regard to efficiency. The more the total carrying capacity is used, the better the costs can be spread among the carriage. This lowers the cost price and is good for the competition position and profit. As seen in this figure the capacity utilisation has improved over the last ten years. The most desirable is to have a capacity utilisation of 1, but this very difficult to achieve.

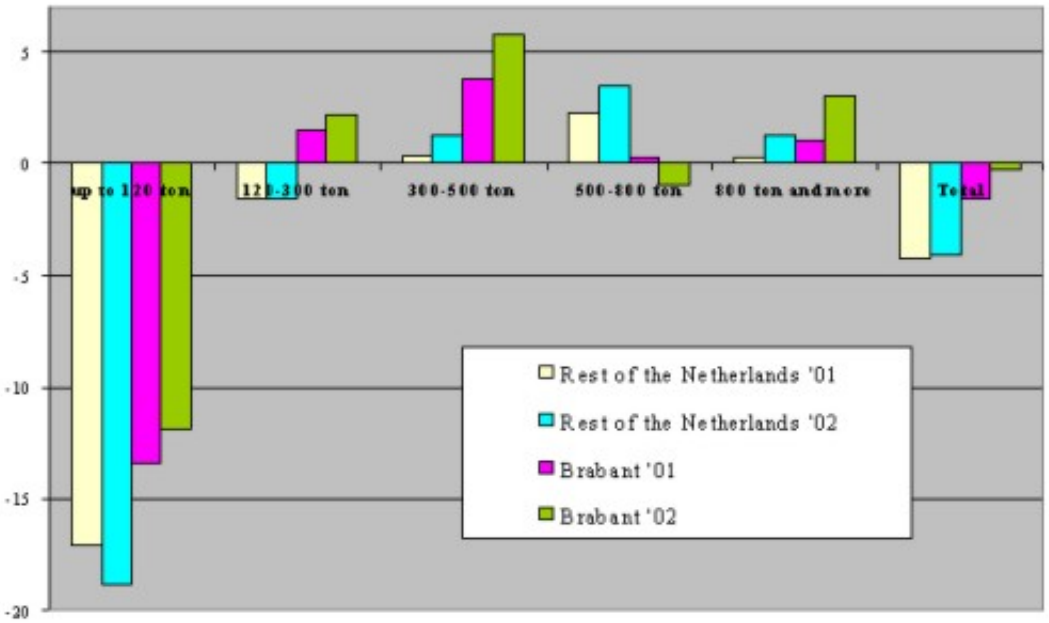


Costs

As in every company costs in the transport companies play an important role and also because the transport sector is a sector with many fixed material assets, like trucks and sheds, and employees the costs contain mainly wages, deprecation and fuel costs. There is a slight difference between Brabant and the rest of the Netherlands, because transport companies in Brabant are performing better with regard to companies in the other provinces.

Profitability

Profitability is an indicator on the performance of all companies. In the transport sector, the profitability differs between the company sizes. The profitability for small companies is very negative. Middle-sized companies are performing the best and the big sized companies are doing well.



Conclusion

On the whole Northern Brabant is performing very well, especially on the financial aspects. With relation to capacity utilisation some improvements can be made.

Questionnaires

In addition to the questionnaires developed, we also used our own information, available from the NEA COST INDEX more information can be found below.

The NEA Cost Index, Performance Indicator

The NEA Transport Research and Training Institute (NL) has developed a system (the NEA Cost Index), which allows for cost comparisons between road transport operators from various European countries. Operators' costs are monitored/reported on their main routes/countries of destination. The system distinguishes between the following cost categories: fuel costs, including lubricants; wage costs, including wages and social security payments and expenses of drivers; capital costs, which include depreciation of vehicle and interest costs of vehicle; other costs, such as insurance, repair and maintenance costs, costs of tyres, general expenses, etc.; and total costs.

This makes it possible to compare the cost performances of operators from various countries. The system produces periodic index-based outcomes, whereby values for each monitored period are expressed as a fluctuation of a base year. The system also allows for monitoring cost trends (bi-annual samples of data are available), as well as for a dynamic comparison of cost trends between operators of various nationalities.

The NEA Cost Index has three levels. The first is a general cost index divided into domestic and international transport. At the second level, the NEA Cost Index is refined to cover a specific transport activity or market segment (e.g. cost index for household waste transport or a cost index for tanker transport). At the most detailed level, the system can calculate the cost index for an individual company on the basis of its detailed costs and cost ratios.

The NEA Performance Indicator was developed (in 2000) to measure individual company performances. It also allows for benchmarking and, thus, for comparing individual company's performances with relevant reference data (intervals), which are considered typical for comparable companies in the industry. The calculation of reference data is based on data that is available from the NEA benchmark. Every year, NEA benchmarks a large number of companies. Through this benchmark, NEA has developed a large database on company characteristics and company performances. For the NEA Performance Indicator, NEA has developed a model that relates company characteristics to company performances.

The following company characteristics are considered: percentage of revenues in different sectors, number of lorries, capacity, number of kilometres per lorry, average age of fleet, percentage of outbound (international) transport, percentage of outsourced transport.

The following company performances are measured: net profit, revenues per hour, revenues per km, fuel cost per km, repair and maintenance cost per km, driver's wages per hour, depreciation cost per lorry, average speed, percentage of indirect cost.

Given the set of company characteristics, the system calculates reference values for the performance characteristics of the individual company, which are unique to this company. In a second step, these unique company values are compared with the reference interval values (norm) for comparable companies. Thus, depending on the position of the company performances within the reference interval, they are evaluated as "normal", "above average", or "warning". The reference values are updated every year, based on the NEA cost index. Once every two or three years, the model is updated.

In this way, the system is able to benchmark both the individual company performances and the total score of the company. In the latter case, the system calculates a weighted company index, depending on the importance of the various performances (e.g. profit more important than speed).