

# Major Trends in Modal Split

## Passenger and Freight Transport EU and North Sea Regions



A Progress Report of the Statistical Mapping Task  
of the Transport Group, NSC

March 2009

Maria Larsson  
Region Västra Götaland

# Contents

<b>1. Introduction .....</b>	<b>2</b>
<b>2. Major Trends in Freight Modal Split, EU level and North Sea Countries.....</b>	<b>3</b>
<b>3. Major Trends for Passenger Modal Split, EU level and North Sea Countries...5</b>	<b>5</b>
<b>5. Conclusions and Recommendations for Future Work.....</b>	<b>7</b>
<b>6. Sources of Transport Statistics.....</b>	<b>8</b>
<b>8. Annex .....</b>	<b>Feil! Bokmerke er ikke definert.</b>

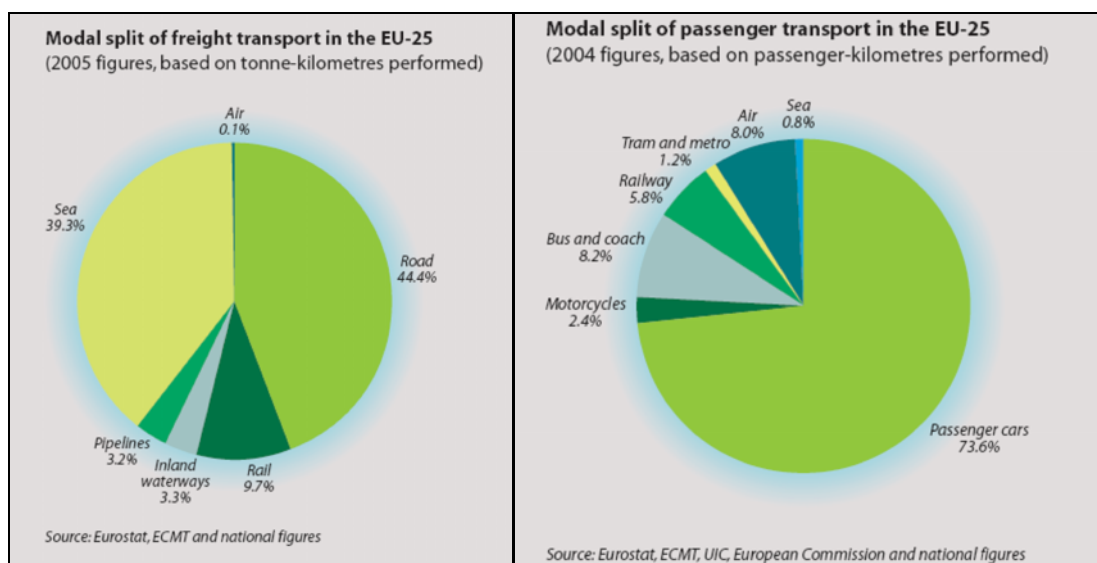
## 1. Introduction

Statistical mapping of key developments in transport sector is one of the tasks in the Work Plan of the North Sea Commission Transport Group. One part of this task is to compile key figures on modal split for passenger and goods flows within the North Sea Region. This report is a result of that task. An annex providing additional statistics and figures for those interested are available.

Modal split refers to the percentage of travellers/goods using a particular mode of transportation. The EU's White Paper *European transport policy for 2010: time to decide*, places an emphasis on efforts designed to promote modal shift towards more sustainable modes, whilst at the same time continuing to support economic growth.

In the EU-25 44% of freight transport moved by road, 39% by sea, and 10% by rail.

For passenger transport 74% of trips were made by car, 8% by buses, 8% by air and 6% by rail.



## 2. Major Trends in Freight Modal Split, EU level and North Sea Countries

In the EU-27, around 1900 billion tonne-kilometres of freight transport is moved by road, about 1500 billion tonne-kilometres by sea, 400 billion tonne-kilometres by rail; and less than 200 billion-tonne kilometres by other modes.

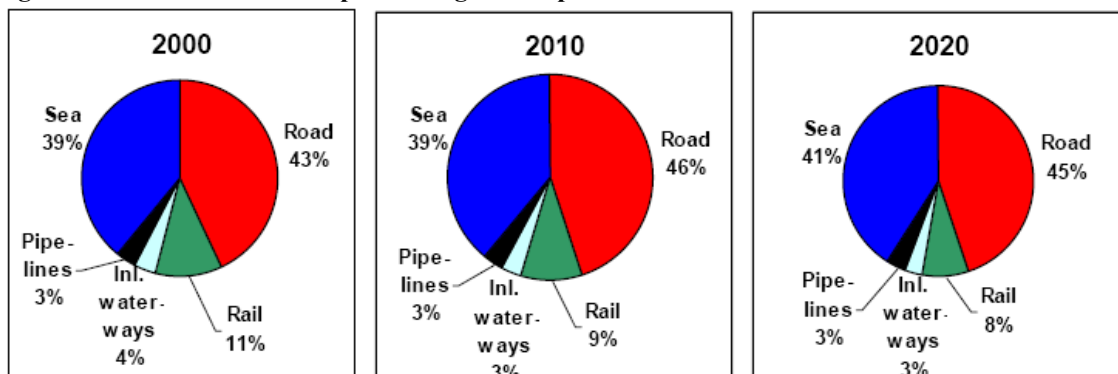
Overall, between 1995 and 2006 within the EU-27, the modal split of freight transported by road increased, whilst all other modes, except for sea transport experienced decreases in their share of freight transport.

Figure 1: EU-27 Modal split of freight transport in percentage

	ROAD	RAIL	INLAND WATERWAYS	PIPE-LINES	SEA	AIR
1995	42.1	12.6	3.9	3.8	37.6	0.1
1996	42.1	12.6	3.8	3.9	37.5	0.1
1997	42.1	12.7	3.9	3.7	37.5	0.1
1998	42.8	11.9	3.9	3.8	37.6	0.1
1999	43.3	11.3	3.7	3.7	37.9	0.1
2000	43.0	11.4	3.8	3.6	38.2	0.1
2001	43.1	10.7	3.6	3.6	38.8	0.1
2002	43.8	10.4	3.6	3.5	38.6	0.1
2003	43.7	10.5	3.3	3.5	38.9	0.1
2004	44.6	10.5	3.5	3.3	38.0	0.1
2005	44.8	10.3	3.4	3.4	38.1	0.1
2006	45.6	10.5	3.3	3.2	37.3	0.1

In the future, it is anticipated that the modal share of freight transported by sea will increase. With regards to the modal share of road transport, this is expected to increase in the immediate future, before slightly decreasing up to 2020.

Figure 2: Evolution of modal split in freight transport 2000 - 2020



Source: DGTREN memo June 2006, Keep Europe moving!

Comparison of countries in the North Sea region reveals some key differences in the modal split of freight transport. For example, road transport has a significant share of

freight movements made in the UK, while rail transport has a relatively high share in Sweden, Belgium and Germany. Inland navigation is very high in the Netherlands while in Sweden and Denmark there is no inland navigation at all.

**Table 1: Modal split (tkm in %) in the EU commodity transport sector 1998<sup>1</sup>**

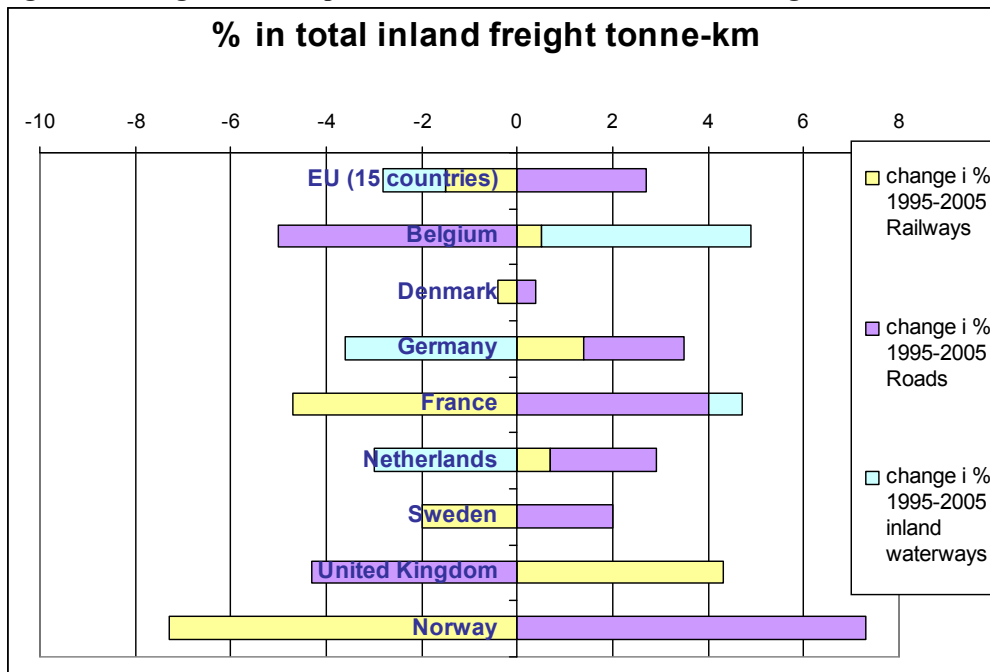
State	Road	Railway	Inland navigation	Pipelines
Belgium	69	15	13	3
Denmark	72	10	0	18
Germany	67	16	14	3
UK	85	9	0,2	6
The Netherlands	48	4	42	6
Sweden	63	37	0	0
EU 15	74	14	7	5

The modal share of road freight is in the magnitude of 60% to 70% in the Netherlands, Sweden, Germany and Belgium. Norway, the UK and Denmark have a higher proportion of road freight at around 90%. With the exception of Belgium, the share of road freight increased across all North Sea countries since 1991.

For inland freight transport amongst the North Sea countries between 1995 and 2005, there was an increase in the share of freight transport moved by road, while the modal split of rail and inland waterways both decreased.

In terms of differences between North Sea countries, the share of road transport of inland freight actually decreased in Belgium and the UK between 1995 and 2005. Rail transport decreased in Norway, France and Sweden but increased in the UK, Germany, the Netherlands and Belgium.

**Figure 3: Change in modal split from 1995 to 2005 of total inland freight tonne-km**



<sup>1</sup> De Baere, Van de Voorde, Transport Economics s 37

### 3. Major Trends for Passenger Modal Split, EU level and North Sea Countries

In the EU-27, passenger transport by car totals around 4500 billion passenger-kilometres per year while passenger transport by all other modes constitute between 50 and 550 billion passenger-kilometres.

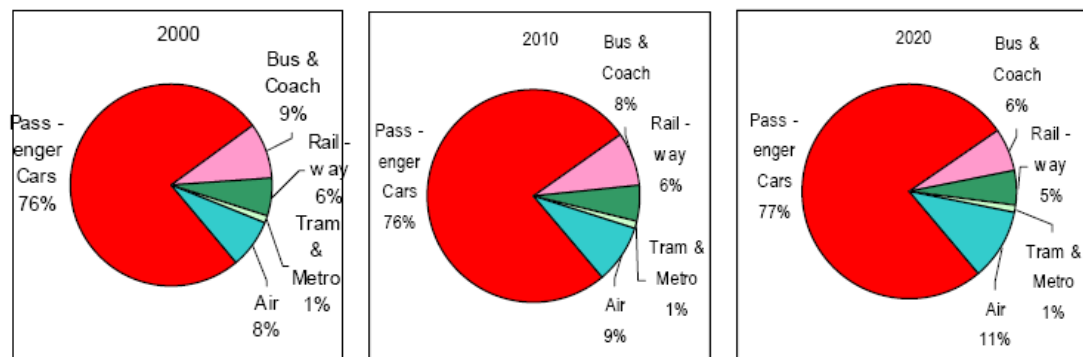
Air transport experienced the highest increase in its modal share between 1995 and 2006. The modal share of powered two wheelers as well as tram and metro also increased over this same period. However, decreases were identified in the modal share of passenger cars, bus and coach, rail and sea.

Figure 4: EU-27 modal split of passenger transport in percentage

	%						
	PASSENGER CARS	P2W	BUS AND COACH	RAILWAY	TRAM AND METRO	AIR	SEA
1995	73.1	2.3	9.5	6.6	1.2	6.4	0.8
1996	73.2	2.3	9.4	6.5	1.2	6.6	0.8
1997	73.1	2.3	9.2	6.4	1.2	7.0	0.8
1998	72.9	2.3	9.1	6.2	1.4	7.3	0.8
1999	73.1	2.3	8.9	6.2	1.4	7.4	0.7
2000	72.8	2.3	8.7	6.3	1.4	7.8	0.7
2001	73.2	2.3	8.6	6.2	1.4	7.6	0.7
2002	73.7	2.3	8.5	6.0	1.4	7.4	0.7
2003	73.6	2.4	8.5	5.9	1.3	7.6	0.7
2004	73.3	2.4	8.4	5.9	1.3	8.0	0.7
2005	72.7	2.4	8.4	6.0	1.3	8.5	0.6
2006	72.7	2.4	8.3	6.1	1.3	8.6	0.6

In the future, no significant changes in passenger transport modal split are expected. The modal share of both car and air transport is expected to slightly increase with bus and rail experiencing slight decreases.

Figure 5: Evolution of modal split in passenger transport 2000-2020

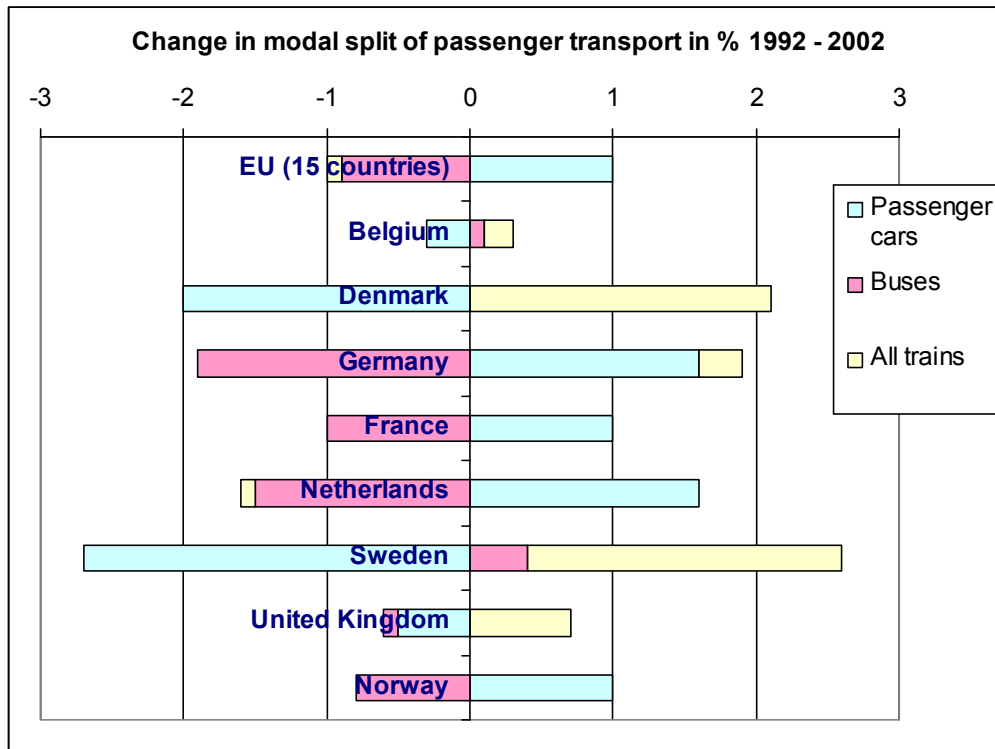


Source: DGTREN memo June 2006, *Keep Europe moving!*

For long-distance passenger travel, the modal split of rail is expected to increase by 67%, while the modal share of air transport will increase from 20% to 28%. Overall, the modal share of rail is expected to increase slightly while the modal share car and bus is expected to decrease by a couple of percent.

Between 1992 and 2002, increases in the modal share of car passenger transport were observed in Germany, France, the Netherlands and Norway, with decreases experienced in Sweden, Denmark and Belgium. The modal share of trips by rail increased in Sweden, Denmark, the UK and Germany. Modal share of bus use decreased in most North Sea countries with the exception of Sweden and Belgium.

**Figure 6: Change in modal split from 1992 to 2002 of passenger transport**



## **5. Conclusions and Recommendations for Future Work**

There is no question about the importance of increasing the modal share of sustainable transport modes, both for freight and passenger transport. However, the statistics presented in this paper indicate that unsustainable transport modes, specifically road transport, tend to be the most common mode of transport for freight and passengers in the majority of countries in the North Sea region, although there are some exceptions.

For freight movement, modal split trends have tended to be in favour of road transport, which clearly goes against the aspiration to develop a more sustainable transport system. In the future, however, sea transport is expected to increase its modal share, while road transport will slightly be decreasing.

For passenger travel, air transport has seen the most significant increase in modal split. This trend is expected to continue into the future, although the modal share of cars is also expected to increase.

For the North Sea countries freight transport by road has actually decreased while rail has increased. Countries like Belgium and the UK are evidently going towards a more sustainable transport system as far as freight transport is concerned.

For passenger transport in the North Sea countries, increases in the modal share of public transport have been observed. Evidence suggests that countries like Sweden, Denmark and the UK are moving towards developing more sustainable transport systems for passengers, although, for some other countries, increases in the modal share of passenger transport by car suggests that there is still a lot of work to be done to encourage the adoption of more sustainable transport modes.

Going forward, it is anticipated that the recent downturn in the global economy could have significant impacts on modal split trends. Although it might be too early to confidently predict in which direction it is reasonable to assume that the crisis could benefit public transport.

It is recommended that the Transport Group continues to follow and monitor the development of modal split trends through ongoing review of relevant websites. Changes could be reported through a yearly update of this report to the Executive and members of the Transport group.. Relevant statistics and reports published should also be discussed and analysed by the Transport Group – giving a valuable source for the direction and focus of the work..

## **6. Sources of Transport Statistics**

Eurostat

[http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=0,1136228,0\\_45572945&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=0,1136228,0_45572945&_dad=portal&_schema=PORTAL)

[http://ec.europa.eu/dgs/energy\\_transport/Figurees/pocketbook/2006\\_en.htm](http://ec.europa.eu/dgs/energy_transport/Figurees/pocketbook/2006_en.htm)

Panorama of transport

[http://epp.eurostat.ec.europa.eu/cache/ITY\\_OFFPUB/KS-DA-07-001/EN/KS-DA-07-001-EN.PDF](http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-DA-07-001/EN/KS-DA-07-001-EN.PDF)

European Road statistics

[http://www.irfnet.eu/images/stat/2007/ERF\\_stats2007.pdf](http://www.irfnet.eu/images/stat/2007/ERF_stats2007.pdf)

Glossary for transport statistics

<http://www.internationaltransportforum.org/pub/pdf/glostat3e.pdf>

National websites statistics

<http://transtat.agderforskning.no/>

<http://www.dft.gov.uk/pgr/statistics/>