

STATISTICS REPORT NORWAY –

Unitised Goods Flows via Ports in Norway

Annex 1.3.3.2 to the Final Report



March 2007

PREFACE

This technical paper – including separate databases for unitised goods flows via Norwegian ports – has been elaborated as part of the SUTRANET project (Work Package 1: Transport Research and Development Network). SUTRANET ('**S**ustainable **T**ransport Research & Development **N**etwork in the North Sea Region') is a project within the framework of the European Commission's (EC's) Interreg IIIB North Sea Programme.

The aim of the paper is to provide a basis for the analysis of available statistics as regards unitised goods flows via ports in Norway with a view to international freight traffic in the North Sea Region. The paper gives a short presentation of the available data sources and relevant statistics. It is assumed that most of the Norwegian ports, which handle unitised goods flows in international traffic, have potential to be included in the transport network serving the North Sea Region (NSR).

The SUTRANET databases for ports in Norway are presented separately as Excel files and structured in a way so that they are consistent with the similar SUTRANET databases elaborated on unitised goods flows for other countries in the NSR. This enables a comparison and analysis of data across the countries.

The paper finally presents some findings and recommendations with the aim to improve and harmonise the statistical reporting on unitised goods traffic in between the countries bordering the North Sea.

The paper and the SUTRANET databases are a combined work of researchers at Aalborg University, Department of Development and Planning, and Møreforsking Molde AS, Norway. Valuable additional information has been provided by Institute of Transport Economics (TØI), Oslo and Statistics Norway (Statistisk Sentral Buro, SSB).

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Jørgen Kristiansen, Aalborg University
Harry Lahrman, Aalborg University
Harald M. Hjelle, Møreforsking Molde AS

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Jørgen Kristiansen, Aalborg University

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Abbreviations and Acronyms Used

EEA

European Economic Area.

EC

European Commission.

LoLo

Lift-on lift-off. This way of cargo handling mainly applies to container ships.

NSR

North Sea Region.

NUTS

Nomenclature of Territorial Units for Statistics. The NUTS nomenclature is a standardised and hierarchical zoning and classification system applied by Eurostat (EC's statistical office).

RoPax

RoPax vessels are ferries for combined transport of RoRo handled goods, passenger cars and passengers (Pax).

RoRo

Roll-on roll-off. RoRo vessels are freight ferries for transport of RoRo handled goods only.

SUTRANET

Sustainable transport research network in the North Sea Region.

TEU

Twenty-foot Equivalent Unit. TEU is a unit indication for the equivalent number of twenty-foot containers.

Overview of the SUTRANET Databases for Norwegian Ports

The SUTRANET databases consist of information about:

- Unitised goods flows via Norwegian Ports (International Traffic) – Comparative tables for the years 2003, 2004 and 2005 (ref. Annex 1);
- RoPax and RoRo Goods via Norwegian Ports – Distribution on Norwegian Ports, on Countries, and on Routes (ref. Annex 2);
- Container traffic via Norwegian ports – Distribution on Norwegian ports and on countries for the years 2003, 2004 and 2005 (ref. Annex 3).

The SUTRANET databases for Norwegian ports present the total annual throughput figures for each port. Statistics Norway provides quarterly figures and a breakdown into inbound and outbound traffic as well.

The present paper provides the method of extending the databases to include additional years before 2003, and to further update with year 2006.

Similar database structures have been elaborated for ports handling unitised goods in Denmark, Sweden, UK, Germany, and partly the Netherlands/Belgium.

Location of Norwegian Ports Handling Unitised Goods

The SUTRANET databases include the following ports in Norway which have been identified – among 28 major ports selected by Statistics Norway - as handling unitised goods with foreign origin or destination in 2003-2005¹:

- | | |
|-----------------------|----------------------------|
| 1. Borg (Fredrikstad) | 11. Karlsund/Haugesund |
| 2. Moss | 12. Bergen/Omland |
| 3. Oslo | 13. Flora |
| 4. Drammen | 14. Bremanger |
| 5. Sandefjord | 15. Nordfjord |
| 6. Larvik | 16. Aalesund |
| 7. Grenland | 17. Molde/Romsdal |
| 8. Kristiansand | 18. Kristiansund/Nordmoere |
| 9. Eigersund | 19. Trondheimsfjord |
| 10. Stavanger | 20. Inner Trondheimsfjord |

¹ Some of these ports have been established as an inter-municipal cooperation between several ports. This implies that the volumes reported may stem from more than one municipal port.

The following overview map indicates the location of the ports in southern Norway (Nos 1 - 13) that are handling unitised goods in international traffic. The ports handling unitised goods - which are located in northern Denmark and on the Kattegat coast of Sweden - are also marked on the map.



Figure 1: Location of ports in southern Norway handling unitised goods in international traffic

In addition, the following ports have been handling some quantities of unitised goods with foreign origin or destination:

- Halden (from 2005);
- Kvinesdal;
- Sandnes;
- Stord;
- Private enterprises.

Sources of Information

The main source of information for this paper, and for the SUTRANET databases covering unitised goods traffic via Norwegian ports, is:

- Statistics Norway
(www.ssb.no/statistikbanken; <http://statbank.ssb.no/statistikbanken>).
- Additional Excel tables provided by Statistics Norway via Møreforsking Molde AS concerning the distribution on countries of international container traffic via each of the 28 ports selected by Statistics Norway (see below), and covering the years 2003-2005.

The Statistics Norway's databank is interactive and applying the same type of software as used by Statistics Denmark.

The collection of foreign trade statistics (according to EU's Intrastat and Extrastat procedures) has not been possible within the limited scope of the SUTRANET project. However, the SUTRANET reports on modelling and scenario descriptions provide some time series and findings regarding the comparison of trade and transport statistics.

The website www.freightferries.co.uk/routes has been consulted concerning existing RoPax and RoRo routes. Some route information is also available on www.shortsea.info.

ShipPax Information, Sweden presents some data on route lengths and frequencies (ref. 'Statistics 05. The Yearbook for Passenger Shipping Traffic Figures'; and 'Statistics & Outlook 06. The Yearbook for Passenger & RoRo Shipping').

Availability of Port Data from Statistics Norway

The present paper has focused on analysing compiled statistics covering the year 2004, because a main part of the SUTRANET data compilation took place during first half of 2006. Since the database figures for 2004 were extracted, Statistics Norway has published the statistics for 2005, and this year and year 2003 are included in the SUTRANET databases as well.

As it is the case for EU Member States, the statistical reporting system for Norway has to meet the requirements of the EC maritime statistics Directive (Council Directive 95/64/EC). The Council Directive has been followed up by four Commission Decisions specifying the rules and arrangements for implementing the Directive.

The reporting to Statistics Norway is done quarterly via the administrative data system of the Norwegian ports. Most of the ports use the system 'PORTwin' that includes a registration of passenger and goods flows via the ports. The ports insert their data in 'PORTwin' based on information received from the forwarders and ferry and line operators. The port administrations transfer the data files extracted from 'PORTwin' to Statistics Norway via e-mail.

The statistics tables published by Statistics Norway are all provided in Excel format. Quarterly statistics is published within 5 months following the quarter in question.

Individual ports' data:

It has proven difficult to extract relevant supplementary statistics from the individual port administrations. Even in the cases where statistics is presented on the particular port website, this information is rather limited. Nevertheless most of the statistics in the port's position is reported to Statistics Norway via the 'PORTwin' system.

As regards container traffic, it is not possible via Statistics Norway's website to get the figures for distribution on foreign ports and/or origin/destination countries.

On some of the ferry routes between Norway and Denmark/Sweden (e.g. the routes via Larvik and Sandefjord), the ferry operators do not report separate figures for accompanied trailers and un-accompanied trailers (semi-trailers).

Comments on Relevant Statistical Tables

This section presents a short commenting as regards the relevant tables included in the Statistics Norway's website databank that presents quarterly or annual throughputs in the ports. The annual throughputs for each port are not presented in the tables presenting quarterly figures, and in these cases annual figures have to be calculated/aggregated based on the quarterly figures.

The statistical tables for goods handled via Norwegian ports can be found on the website e.g. as follows:



Under 'Port statistics' the following tables presenting maritime transport statistics in the databank are of relevance to unitised goods flows via Norwegian ports:

- **Table 03644:**
Cargo and number of units, by port, direction, type of cargo and domestic/foreign traffic.
- **Table 03648:**
Cargo and number of containers in domestic and foreign traffic, by port.
- **Table 03891:**
Cargo in domestic and foreign traffic, by direction and type of commodity (tonnes).
- **Table 04225:**
Ferry transport between Norway and foreign countries. Number of units, by port and relation, direction and type of cargo.
- **Table 04277:**
Cargo by port and type of cargo (tonnes).
- **Table 06203:**
Arrivals of vessels in domestic and foreign traffic, by type of vessel.

All the above mentioned tables include, for each port and for each quarterly or annual registration, a breakdown on loaded and unloaded goods.

Assumptions

The weight of goods figures in the tables includes the immediate packaging. The weights of the transport unit and the tare weight of the container or RoRo unit are not included in the tonnes figures presented in these tables.

The Tables 03644, 03648 and 03891 include a breakdown on domestic and foreign traffic.

Table 04225 presents goods transport by ferries between Norway and foreign countries.

Table 03644 and Table 04277 present the total RoRo figures including the RoPax and freight ferry data from Table 04225, and container traffic. The data in Table 04227 cover all Norwegian ports, whilst the data in Table 03644 only covers the 28 selected ports that report quarterly to Statistics Norway (SSB) but in more detail than Table 04227 that is based on annual reporting only.

A breakdown on quarterly traffic in the above mentioned tables is available (mid-2006) on the website as for the following years:

Table 03644:	2002-2005 (for 28 selected ports)
Table 03648:	2002-2005 (for 28 selected ports)
Table 03891:	2002-2005 (for 28 selected ports)
Table 04225:	2003-2005 (for 28 selected ports)
Table 06203:	2004-2005 (for 28 selected ports).

Table 04277 presents the annual throughputs in each port covering the years 2002-2005 and including all Norwegian ports.

Below is given a short description of each of these tables.

Table 03644:

Cargo and number of units, by port, direction, type of cargo and domestic/foreign traffic (2002-2005)

This table presents the **quarterly throughput** figures for each of the 28 ports selected by Statistics Norway. The table includes tonnes figures and units figures. For each of these figures there is a breakdown on total, unloaded and loaded units, and for domestic, foreign and unknown traffic.

The table presents a breakdown on 34 types of cargo handling including nine types of containers (also applied in Table 03648, see below) as follows:

LoLo 20'; LoLo 40'; LoLo >20' and <40'; LoLo >40'; LoLo 10' and less; RoRo 20'; RoRo 40'; RoRo >20' and <40'; RoRo >40'.

The 34 types of cargo handling also include the following types of RoRo handling that are identical to the types used in Table 04225 (see below):

- 1) Road goods vehicles and accompanying trailers
- 2) Other mobile self-propelled units
- 3) Unaccompanied road goods trailers and semi-trailers
- 4) Unaccompanied caravans and other road agricultural and industrial trailers
- 5) Rail wagons, ship-borne port-to-port trailers and barges engaged in goods transport
- 6) Other mobile non-self-propelled units.

As pointed out for Table 04225 (see below), the types No 2, No 4 and No 6 only represent very small quantities of goods, and only via the ports of Kristiansand, Eigersund and Oslo.

According to Statistics Norway, some differences may occur compared to the figures in Table 04225. This is because Table 03644 includes transport of RoRo units by freight vessels (e.g. via Bergen and Grenland), which are not categorised (by Statistics Norway) as ferries and thus not included in Table 04255.

Some differences also occur compared with the figures in Table 04277 (see below), because the latter table includes all Norwegian ports.

Table 03648:

Cargo and number of containers in domestic and foreign traffic, by port

For each of the 28 ports selected by statistics Norway this table includes **quarterly throughput** figures for:

- containers with cargo (units: tonnes; number of containers);
- containers without cargo (unit: number of containers);
- containers in TEU² with cargo (unit: TEU units);

² TEU is the unit for the equivalent number of twenty-foot containers (TEU = 'Twenty-foot Equivalent Unit').

- containers in TEU without cargo (unit: TEU units).

There is a breakdown on total, domestic, foreign and unknown traffic. For all figures there is a further breakdown in the nine container types applied in Table 03644 (see above).

Table 03648 is the source for the annual throughput in TEU figures presented in the SUTRANET database Annex 1.

Table 03891:

Cargo in domestic and foreign traffic, by direction and type of commodity (tonnes)

This table presents the cargo in tonnes for the 28 ports selected by Statistics Norway. The table provides a breakdown of **quarterly throughput** tonnes figures in total, unloaded and loaded, and for each of these groups a further breakdown in domestic, foreign and unknown traffic.

For each of the figures, there is a breakdown in 25 categories of commodities, including the 24 NST/R³ commodity groups (ref. also the SIKA Tables 3A and 3B and Tables 4A and 4B for Sweden). The group No 25 is “unspecified goods in containers and RoRo units”. There is not – as in the case of Statistics Sweden – a breakdown in three types of unitised goods (i.e. lorries and semi-trailers, rail-wagons, and containers).

Table 03891 is less useful for the SUTRANET databases because there is no breakdown in unitised cargo handling types.

Table 04225:

Ferry transport between Norway and foreign countries. Number of units, by port and relation, direction and type of cargo

This table presents the passenger and freight flows served by ferries (RoPax and RoRo vessels) on international routes. It includes the **quarterly throughput** in tonnes and units since first quarter of 2003 for each of the 28 larger ports selected by Statistics Norway. There is a breakdown of the tonnes and units figures in total, unloaded and loaded goods, and for each of these three groups there is a further breakdown in number of units with cargo and without cargo respectively. In the most recent version (February 2007) however, total goods figures have been excluded.

Table 04225 does not include any information about container traffic.

Refer also to the remarks regarding Table 03644 and Table 04277 that some vessels that carry RoRo units are included in the figures presented in Table 03644 and Table 04277 but not in Table 04225.

³ NST/R is a revised standard goods classification for transport statistics applied by the European Commission (EC).

The table includes the following six types of cargo handling types (also applied by Table 03644):

- 1) Road goods vehicles and accompanying trailers
- 2) Other mobile self-propelled units
- 3) Unaccompanied road goods trailers and semi-trailers
- 4) Unaccompanied caravans and other road agricultural and industrial trailers
- 5) Rail wagons, ship-borne port-to-port trailers and barges engaged in goods transport
- 6) Other mobile non-self-propelled units.

For each of these types there is a breakdown in **seven geographical areas** as follows:

- Norway (domestic)
- Faroe Islands
- United Kingdom
- Denmark
- Sweden – Baltic Sea
- Sweden – North Sea
- Germany – Baltic Sea.

The figures for types No 2 and No 6 (other mobile self-propelled and non-self-propelled units) only indicate some very small or negligible goods quantities on the routes via Kristiansand to Sweden/UK and via Eigersund to Denmark, and none via other ports.

The type No 4 (unaccompanied caravans and other road agricultural and industrial trailers) only indicates some small or negligible quantities via Oslo to Denmark and via Eigersund to Denmark. Some quantities within this type are also reported via Oslo to Germany – Baltic Sea (2.6x1000 tonnes in 2004).

According to the Statistics Norway's tables, figures for rail wagons, ship-borne port-to-port trailers and barges engaged in goods transport (type No 5) appear only in the case of Oslo Port. The cargo handling type No 5 is only served via routes from the Port of Oslo to Denmark and Germany – Baltic Sea (43x1000 tonnes in 2004). The Oslo port administration has informed that there are no rail wagons being shipped via Oslo Port. The figures for the cargo handling type "Ship-borne port-to-port trailers and barges" is included in the figures for Oslo Port in the SUTRANET database Annex 1.

The following two types of cargo of relevance to unitised goods transport provide the main contributions to the figures in the SUTRANET databases Annex 1 and Annex 2:

- Road goods vehicles and accompanying trailers (type No 1)
- Unaccompanied road goods trailers and semi-trailers (type No 3).

The geographical distribution of ferry goods on ports and routes, based on the statistics of Table 04225 for type No 1 and type No 3 goods, are presented in Annex 2.

Table 04225 does not provide any information about which of the routes that are served by RoPax vessels (combined passenger and freight ferries) and RoRo vessels (freight ferries) respectively. Such information has to be compiled from the individual ferry operators.

Table 04277:
Cargo by port and type of cargo (tonnes)

This table presents the freight flows served by ferries (RoPax and RoRo vessels) and container (feeder) ships. It includes the **annual throughput** (no breakdown on quarterly throughput) in tonnes for the years 2002-2005 and for each of the 78 ports that report annually to Statistics Norway. Thus this table may include some traffic that is not included in the Tables 03644, 03648 and 04225, because the latter are based on the quarterly reporting covering only the 28 larger port selected by Statistics Norway.

Table 04277 provides no unit figures. There is a breakdown of each of the tonnes figures in total, unloaded and loaded goods, and a breakdown of the total figure for each cargo handling type in domestic traffic, foreign traffic and unknown traffic.

For each of the ports and these categories, Table 04277 provides a further breakdown in seven types of cargo handling. Apart for non-unitised goods (liquid bulk, dry bulk, other cargo not elsewhere specified) these include:

Large containers (LoLo)
 Large containers (RoRo)
 Mobile self-propelled units
 Mobile non-self-propelled units.

“Large containers” involve 20’ and larger containers. Some quantities of large containers handled by RoRo equipment were registered for the years 2004-2005 in the following ports: Borg, Oslo, Larvik, and Bremanger (only small or negligible quantities), and Grenland (considerable quantities).

Table 04277 presents a less detailed breakdown as regards RoRo handling types than presented in the tables covering the 28 larger ports only (e.g. Table 04225 and Table 03644). As a consequence, the cargo handling type “Mobile self-propelled units” may include “1) Road goods vehicles and accompanying trailers” and “2) Other mobile self-propelled units”, whilst “Mobile non-self-propelled units” may include “3) Unaccompanied road goods trailers and semi-trailers” and the types 4), 5) and 6), see descriptions for Table 04225 and Table 03644.

Some vessels that carry RoRo units are included in the figures presented in Table 03644 and Table 04277 but not in Table 04225, because these vessels are not categorised as ferries.

Table 06203:

Arrivals of vessels in domestic and foreign traffic, by type of vessel

The units are the **quarterly** number of arrivals of vessels and the quarterly gross tonnage. There is a breakdown of these figures on domestic, foreign and unknown traffic. The table covers the 28 selected ports. It provides a breakdown on eight vessel types including container ships and ferries in international traffic. As to the latter type there is no distinction made between RoPax and RoRo vessels.

The following ten ports served international ferry traffic in 2003-2005:

- Moss (only 2004 and only passengers)
- Oslo
- Sandefjord
- Larvik
- Grenland
- Kristiansand
- Eigersund
- Stavanger
- Karlsund
- Bergen.

Table 06203 indicates that around 16 of the 28 selected ports served international container traffic during 2003-2005. It also illustrates that 20 ports served domestic container traffic. The domestic container traffic for some of these ports (such as Drammen, Kristiansand, Florø, Nordfjord, Alesund and Bodø) was significant in terms of number of vessels. For these ports, foreign traffic only represented relatively smaller numbers of vessels but probably much larger vessels than those serving domestic traffic.

International Ferry Routes via Ports in Norway

Statistics for the geographical distribution of ferry traffic via Norwegian ports are included in Table 04225. This table is the basis for the overview tables in the SUTRANET database Annex 2.

The website www.freightferries.co.uk/routes presents an overview of all international ferry routes serving freight, i.e. the overview includes both RoPax and RoRo traffic. As of 1 February 2006 this website included the following routes to/from Norway:

Sweden:

There are no ferry connections between Norway and 'Sweden Baltic Sea'. In 2004 the following routes existed between Norway and 'Sweden North Sea':

- Brevik – Gothenburg
- Kristiansand – Gothenburg
- Sandefjord - Strömstad
- Oslo - Helsingborg (according to SIKA, ref. Statistics Report Sweden).

Denmark:

Oslo - Hirtshals
Oslo – Frederikshavn
Oslo – Copenhagen
Larvik – Hirtshals
Larvik – Frederikshavn
Kristiansand – Hirtshals
Stavanger – Hirtshals.

UK:

Grenland/Brevik – Immingham
Kristiansand – Newcastle
Kristiansand – Immingham
Stavanger – Newcastle
Karmsund/Haugesund – Newcastle
Bergen – Newcastle.

Germany Baltic Sea:

Oslo – Kiel.

Belgium:

Grenland/Brevik – Gent.

The routes Oslo – Helsingborg, Eigersund – Hanstholm and Grenland/Brevik – Hirtshals were not indicated in the ‘freightferries’ website.

The picture of unitised goods flows via ports is dynamic. Some routes are being closed down, and new routes and services are being introduced. The comments in this paper refer to the ports which were reported serving unitised goods in 2003-2005.

Presentation of the SUTRANET Databases

The following general assumptions apply to the statistical figures in the SUTRANET databases (Annexes 1-3):

- 1) Domestic goods transport between Norwegian ports is (with a couple of exceptions) not included in the tables of the databases.
- 2) The weight of goods figures includes the immediate packaging. The weights of the transport unit, and the tare weight of the container or the RoRo unit, are excluded. This is also the case for statistics of ports in Sweden, Denmark and UK, but not generally for port statistics covering Germany and the Netherlands/Belgium where some of the data sets for unitised goods (notably containers) may include the tare weight.

There is no available information on the Statistic Norway's website of the geographical distribution of container traffic on foreign countries and country groups. This information has been provided via Møreforsking AS based on specific data provided by Statistics Norway.

Annex 1

Annex 1 presents an overview table for the years 2003, 2004 and 2005, including the annual throughput figures for the different types of unitised goods for each of the Norwegian ports handling unitised goods in international traffic. The table includes the ports of Bronnøy, Rana, Bodø, Narvik and Tromsø as one group ("North total"). These ports are located outside the boundaries of the eligible NSR area.

To ensure comparability of the tables and statistics for different countries, Annex 1 applies the following terminology:

- ❖ **A1 tonnes and units figures** include ferry goods quantities carried on road goods vehicles with or without accompanying trailers.
- ❖ **A2 tonnes and units figures** are ferry goods quantities carried on unaccompanied road goods trailers (semi-trailers), including goods carried by "normal" RoPax ferries and by RoRo freight vessels.

As to A1 and A2 tonnes and units figures, this statistics is based on Table 04225. However, Table 04225 excludes RoRo units carried by other vessels than those categorised as ferries, and the table does not cover reporting from Norwegian ports not included among the 28 ports selected by Statistics Norway.

Statistics for the cargo handling type "Rail, and wagons, ship-borne port-to-port trailers engaged in goods transport" could be based on Table 04225 and Table 03644. Presently quantities within this type are only reported for the Port of Oslo. The port administration has informed that there are no rail wagons handled over quay in the Port of Oslo during 2003-2005, and a separate category "goods by rail wagons" is not reflected in Annex 1 for Norwegian ports.

- ❖ **B1 and B2 tonnes and units figures** are RoRo goods quantities not included in Table 04225, but included in the more aggregated figures of Table 04277. The B1 and B2 tonnes figures are derived from the differences between the figures presented in the two tables.

B1 tonnes figures are calculated as the difference between tonnes figures from Table 04277 for "Mobile self-propelled units" and Table 04225 tonnes figures for 1) "Road goods vehicles and accompanying trailers". This difference also includes the cargo handling types 2) "Other mobile self-propelled units" as listed in the description of Table 04225.

B2 tonnes figures are calculated as the difference between tonnes figures from Table 04277 for "Mobile non-self-propelled units" and Table 04225 tonnes figures for 3)

“Unaccompanied road goods vehicles and accompanying trailers”. This difference also includes the cargo handling types 4) – 6) as listed in the description of Table 04225.

The B1 and B2 figures reflect goods quantities carried on vessels by other RoRo equipment types than road goods units and containers, and road goods carried by vessels not registered as ferries. Such other equipment types include “Unaccompanied caravans and other road agricultural and industrial trailers”, “Ship-borne port-to-port trailers and barges”, “Other mobile self-propelled units”, and “Other mobile non self-propelled units” according to the specification in Council Directive 95/64/EC. The “Unaccompanied caravans and other road agricultural and industrial trailers”, and “Ship-borne port-to-port trailers and barges” types mainly or only occur in the case of the port of Oslo. B1 and B2 figures for the ports of Drammen, Larvik, Grenland, Kristiansand, Eigersund, Stavanger, Karmsund/Haugesund, Bergen/Omland and Trondheimfjord represent the “Other mobile self-propelled units” and “Other mobile non self-propelled units” types.

- ❖ **B3 tonnes figures** are data from Table 04277 and/or Table 03648 (or Table 03644) for RoRo containers, i.e. carried by RoRo vessels. This category is so far only relevant for Grenland (127,000 tonnes in 2004), for Larvik (2,000 tonnes in 2004), and for Oslo (insignificant quantities).
- ❖ **C tonnes and TEU figures** cover quantities of goods in containers carried on LoLo vessels, i.e. mainly on feeder ships to/from countries in Northern Europe and the Baltic Sea Region, and between Norwegian ports and the deep sea container ports in north-western Europe.

Tonnes figures are based on Table 04277 for “Large containers (LoLo)”. Table 04277 covers all Norwegian ports. Tonnes figures for ports Nos. 1-20 (included in the 28 selected ports) can also be derived from Table 03648 (or Table 03644). TEU figures for ports Nos. 1-20 are based on the sum of figures for LoLo containers in Table 03648 (or Table 03644). TEU figures for ports not included in the 28 selected ports are not available. There is generally full consistency between Table 04277 and the tonnes figures presented in Table 03644 and Table 03648.

Annex 2

Annex 2 presents for **year 2004** the distribution on countries and on RoPax and other RoRo routes of ferry/RoRo traffic to the extent possible. The figures in Annex 2 are based on Statistics Norway’s Table 04225 supplemented with some additional route information from other sources, such as statistics Denmark and Statistics Sweden.

As regards the geographical distribution, ‘Sweden North Sea’ (Code SE02 = NUTS II region West Sweden) includes the ports north of Helsingborg, i.e. including the following Swedish ports handling unitised goods: Stroemstad, Uddevalla, Gothenburg, Varberg, and Halmstad. ‘Sweden Baltic Sea’ (including Code SE01 = NUTS II region South Sweden) includes the following ports in Southern Sweden: Helsingborg, Malmoe, Trelleborg, Ystad, and Karlskrona.

Annex 3

Annex 3 presents – for each Norwegian port and each of the years 2003-2005, the distribution of container traffic on selected countries and country groups. As mentioned elsewhere, Annex 3 is based on separate data provided by Statistics Norway because such data are not available on the website.

Development and Distribution of RoRo Traffic

The average annual growth rate of international RoRo cargo for 2003 to 2005 in Norway is 8% when based on tonnes handled and 11% based on the number of units in and out. The port of Oslo has had a below average growth rate, whereas the ports of Larvik and Grenland have had very significant growth with annual growth rates based on tonnes between 20% and 25% over the same period. The Table 1 below, which presents an extract from Annex 2, indicates the distribution of RoPax and RoRo traffic via Norwegian ferry ports on countries and routes. The figures are the sums of import and export quantities:

Table 1: Goods on lorry, trailer and semi-trailer

To/from Country	Routes	RoPax or RoRo	Total import + export	
			1000 Tonnes	1000 Units
Sweden	Oslo-Helsingborg	?	16	2
	Sandefjord-Stroemstad	RoPax	295	19
	Kristiansand-Gothenburg	RoPax	12	1
Denmark	Oslo-Hirtshals	RoPax	199	21
	Oslo-Frederikshavn	RoPax	205	14
	Oslo-Copenhagen	RoPax	233	14
	Grenland/Brevik-Hirtshals	?	163	20
	Larvik-Hirtshals	RoPax	202	21
	Larvik-Frederikshavn	RoPax	223	20
	Kristiansand-Hirtshals	RoPax	317	30
	Eigersund-Hanstholm	RoPax	70	5
	Karmsund-Hirtshals?	?	13	1
	Bergen-Hirtshals	RoPax	57	3
UK	Kristiansand-Newcastle	RoPax	14	2
	Stavanger-Newcastle	RoPax	26	2
	Karmsund-Newcastle	RoRo	9	1
	Bergen-Newcastle	RoPax	19	2
Germany	Oslo-Kiel	RoPax	369	29

The table reflects that information about the distribution of unitised goods flows on routes is incomplete. Statistics Norway does not publish information on the distribution of traffic flows on ferry routes.

Containers in International Traffic

The Table 2 below presents extracts from The SUTRANET database Annex 1, i.e. the total figures of international container traffic via Norwegian ports for the year 2004. These data are supplemented by the total figures for foreign plus domestic container traffic (based on Statistical Yearbook 2005, Table No 436).

Table 2: Container traffic via Norwegian ports 2004

No	Port	International			International + domestic 1000 Tonnes
		1000 Tonnes	Pct.	1000 TEU	
1	Borg (Fredrikstad)	363		39	371
2	Moss	227		28	227
3	Oslo	1.221	34	170	1.227
1-3	Oslo Fiord, total	1.811	50	237	
6	Larvik	417		40	427
7	Grenland	193		13	397
6-7	Grenland area, total	610	17	53	
8	Kristiansand	374		34	378
9	Eigersund	22		3	22
10	Stavanger	116		19	231
	Others	18			
8-10+	South Coast	530	15	56	
1-10+	South-east, total	2.951	81	346	
11	Karmsund/Haugesund	58		7	61
12	Bergen/Omland	129		20	163
	Others	14			
1-12+	South, total	3.152	87	373	
13	Flora	23		2	193
15	Nordfjord	49		6	51
16	Aalesund	227		34	233
18	Kristiansund/Nordmoere	89		5	149
19	Trondheimsfjord	73		9	76
20	Inner Trondheimsfjord	16		2	16
	Others	7		0	
13-20+	West, total	484	13	58	
1-20+	Total	3.636	100	431	
	North, total	7		1	227
	Private enterprises	131			
	Norway, total	3.774		432	

The notable domestic container traffic within Norway is due to the long geographical distances combined with topographical conditions (see comments above regarding Table

06203). Except for the ports in North Norway, only the container traffic figures for Grenland, Stavanger, Bergen, Florø and Kristiansund/Nordmøre involves significant domestic container traffic in terms of tonnes figures.

In the case of Denmark and even Sweden, the domestic share of container traffic is negligible or very limited.

Figure 2 indicates the development during 2003-05 regarding container traffic via Norwegian ports with international origin and destination:

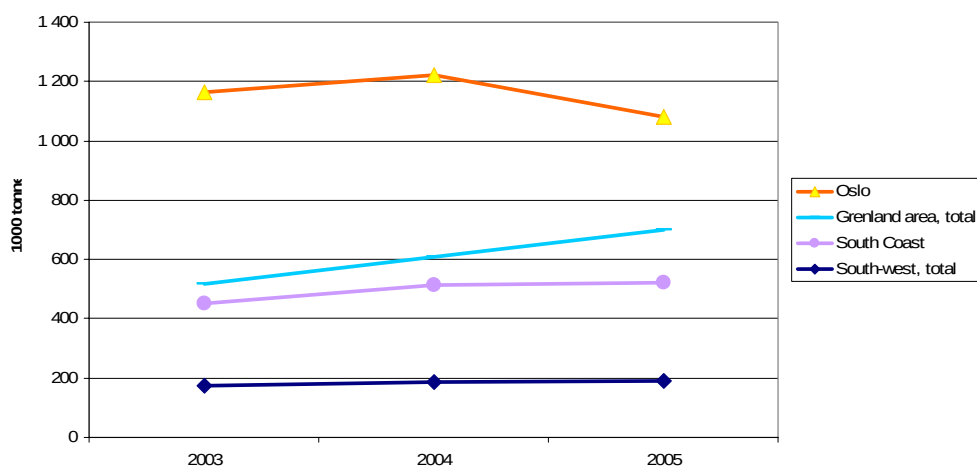


Figure 2: LoLo Container tonnes to/from Norwegian North Sea ports

In LoLo container trades the port of Oslo has actually a negative growth rate, both when considering tonnes handled, but a small increase in units. As in the case of RoRo traffic, the Grenland area has significant positive growth rates, but mainly in the number of tonnes handled.

Geographical Distribution of Container Traffic:

Table 04225 is confined to ferry and RoRo traffic. The databank of Statistics Norway, such as Tables 03644 and Table 03648, does not provide any information on the geographical distribution of container traffic. An example of a template for such information (tonnes and TEU figures) is indicated below:

Norwegian Port	To/from Country	Direction		Total	
		Inward (Unloaded/Import)	Outward (Loaded/Export)	1000 tonnes	1000 TEU
	Iceland and Faroe Islands				
	UK				
	Ireland				
	Denmark				
	Sweden, North Sea				
	Sweden, Baltic Sea				
	Germany, North Sea				
	Germany, Baltic Sea				
	Poland				

	Baltic States				
	Finland				
	Russia, Baltic Sea				
	The Netherlands				
	Belgium				
	Atlantic Arc				
	Mediterranean				
	Others				
	Total				

Data for the geographical distribution for each port of the container traffic on countries and/or country groups are presented in the SUTRANET database Annex 3. Annex 3 is based on data separately commissioned by Statistics Norway.

Databases: Additional Comments and Assumptions

The sources, assumptions and some comments are presented as follows, and in consistency with the sources and notes indicated in the SUTRANET databases in Annexes 1-3.

Annex 1

Sources (Statistics Norway, www.ssb.no/StatBank):

- 1) Table 04225: Ferry transport between Norway and foreign countries. Number of units, by port and relation, direction and type of cargo – as to A1 and A2 tonnes and units figures for ports Nos. 1-20.
- 2) Table 04277: Cargo by port and type of cargo (tonnes) – as to B1 and B2 tonnes figures derived as the difference compare to the A1 and A2 tonnes figures in Table 04225; and C (LoLo containers) tonnes figures for all ports.
- 3) Table 03648: As to B3 (RoRo containers) tonnes and units figures; and C units figure for ports Nos. 1-20.

Table 04225 only includes goods transport by ferries. Table 04227 (and Table 03644) present the total RoRo figures including the ferry data from Table 04225.

Notes:

- 1) The weight of goods figures includes the immediate packaging. The weights of the transport unit, and the tare weight of the container or the RoRo unit, are excluded if not specifically indicated.
- 2) Domestic goods transport between Norwegian ports is not included.
- 3) North, total includes the ports of Bronnøy, Rana, Bodø, Narvik and Tromsø.
- 4) **A1 figures** are quantities carried by “Road goods vehicles and accompanying trailers” based on Table 04225 that excludes other vessels than ferries.

- 5) **A2 figures** are the sum of “Unaccompanied road goods trailers and semi-trailers” based on Table 04225.
- 6) The **B1 and B2 figures** (Other RoRo) include:
 - Other mobile self-propelled units (B1)
 - Unaccompanied caravans and other road agricultural and industrial trailers (B2)
 - Rail wagons, ship-borne port-to-port trailers and barges engaged in goods transport (B2)
 - Other mobile non-self-propelled units (B2).

No maritime goods traffic on rail wagons via Norwegian ports were reported in 2003-2005.

B1 and B2 tonnes figures are derived from Table 04277. They are calculated as the difference between the figures for “Mobile self-propelled units” and A1 figures (based on Table 04277), and between “Mobile non-self-propelled units” and A2 figures (based on Table 04277), respectively. B1 and B2 unit figures are estimated as the average ratios of A1 tonnes/A1 units and A2 tonnes/A2 units i.e. 0.09xtonnes and 0.08xtonnes respectively. Unit figures (and tonnes figures) for ports Nos. 1-20 can also be derived from the Statistics Norway’s Table 03644.
- 7) **B3 figures** are quantities of container goods carried by RoRo vessels.
The summing up of RoRo total units figures assumes that 2 TEU = 1 RoRo unit.
- 8) **C tonnes figures** cover container traffic and are based on Table 04277. In this case there is full consistency between the tonnes figures in Table 04277 for 'Large containers (LoLo)' and the sum of figures for LoLo containers in Table 03648. **C TEU figures** for containers are based on the sum of figures for LoLo containers in Table 03648.
- 9) Statistics for ferry routes via Larvik and Sandefjord does not present a breakdown on separate A1 and A2 figures. In these cases goods by semi-trailers etc. are included in A1 figures.
- 10) The A1 and A2 figures for Eigersund include some modest quantities reported as domestic Norway-Norway traffic (e.g. 4,000 tonnes in 2004).

Annex 2:

Sources:

- Statistics Norway (www.ssb.no/StatBank), Table 04225;
- www.freightferries.co.uk/routes.

Routes marked with * were not included in www.freightferries.co.uk/routes as of 1 February 2006. Another source of route information is www.shortsea.info. These sources do not include any RoRo flow figures.

Notes:

- 1) The weight of goods figures includes the immediate packaging. The weights of the transport unit and the tare weight of the container or the RoRo unit are excluded.
- 2) Sweden-North Sea includes the ports in Stroemstad, Gothenburg, Varberg and Halmstad; as from Helsingborg is considered belonging to Sweden-Baltic Sea.

- 3) No ferry goods transport (A1 and A2) has been accounted for between Norwegian ports and Sweden-Baltic Sea. Figures for the Oslo-Helsingborg route are taken from the SIKA publication 'Shipping goods 2004'.
- 4) No ferry goods transport (A1 and A2) has been accounted for between Norwegian ports and Germany-North Sea.
- 5) The breakdown on routes via Oslo, Larvik and Kristiansand is based on the table for unitised goods via Danish ports. These figures are slightly lower than the figures derived from Table 04225.
- 6) There are significant inconsistencies between the route flow figures based on Statistics Denmark for Danish ferry ports and Norwegian port statistics concerning ferry traffic to/from Denmark via Grenland, Eigersund and Stavanger/Karmsund/Bergen.

Annex 3:

Source:

Data specifically provided to the SUTRANET project by Statistics Norway for the years 2003, 2004 and 2005.

‘Grand total’ figures are taken from Annex 1.

Notes:

- 1) The weight of goods figures includes the immediate packaging. The weights of the transport unit, and the tare weight of the container, are excluded.
- 2) Domestic goods transport between Norwegian ports is not included.
- 3) The total number of empty TEU containers is only specified for year 2004.

The full databases (Annexes 1-3) can be provided as Excel files on request to the SUTRANET secretary, ref. the website www.sutranet.org.

Findings and Recommendations

In order to improve the statistics reporting concerning unitised goods flows via Norwegian ports, and to harmonise this statistics with the similar statistics for other NSR countries, some findings and recommendations have been identified as follows.

Findings

Information on the geographical distribution of international container traffic on origin/destination countries and/or geographical areas is not included in the Statistics Norway's website database. Such data has to be ordered separately. It is, however, not possible based on the reported statistics to get the distribution on specific foreign ports.

As to the port statistics of container traffic, it is not possible to identify the distribution on feeder ships and deep sea ships, considering to which extent short sea traffic reflects feeder traffic. The share of transshipment is not reported/counted in available statistics, i.e. container traffic that flows from a Norwegian port to a deep sea container port - such as Hamburg and Bremerhaven - for further transshipment to overseas countries. Thus the share of this container transshipment cannot be identified based on available statistics.

There is no mention of the NST/R goods classification in the annual report for Statistics Norway's maritime statistics. A clarification would eventually be needed of the relations and usefulness of the trade statistics' breakdown in NST/R (or NST 2000) commodity groups vis-à-vis the goods carried in containers and RoRo equipment. It is not possible to specify the quantities of unitised goods that are included in some of the NST/R commodity groups.

RoRo handled containers via Grenland 2003-2005 indicates that this type of equipment could represent a potentially growing market.

There are no international ferry services north of Bergen.

For some of the ferry routes between Norway and Denmark/Sweden (e.g. via Larvik and Sandefjord) there is no separate account of goods carried by semi-trailer (unaccompanied/non-self propelled).

Recommendations

It could be considered publishing the reported geographical distribution of international container traffic via major Norwegian ports at an aggregated level, such as it is to some extent provided by e.g. Statistics Denmark and Statistics Sweden. There is also a need to enable the identification of some data on the share of feeder and transshipment traffic.

Direct presentation of annual throughput figures should be made available as complementing the quarterly figures. This could be done by publishing information complementary to Table 04277 e.g. concerning annual units and TEU figures. Such annually aggregated data for the 28 selected ports could be presented in a separate table, ensuring consistency as regards the breakdown on cargo handling types.

A separate presentation of the share of unaccompanied trailers (semi-trailers) should be included in the standard reporting procedures requested by Statistics Norway on ferry routes, also in the cases where it is currently missing. This would enable an analysis of the development trends on this important indicator.

It is recommended to make a clear distinction between RoPax and RoRo vessels in the relevant tables, so that unitised goods flows could be specified also on other RoRo routes than those served by RoPax vessels. Thus it should be considered including information on RoRo (freight ferry) routes in the standard reporting procedures of ferry operators, in order to make these data available in the port statistics. Route specific flow data for unitised goods via Norwegian ports could be published such as it is being done by Statistics Denmark and Statistics Sweden.