

Summary:

Urban freight transport in Norway

Background

For many years companies have focused on increased efficiency in the supply chains, and freight transport in cities gradually integrates with long distance transports. The ongoing processes in the freight transport market lead to reduction in number of stores and consolidation of goods.

This survey reveals that the freight transport market in Norwegian cities follow the international trends:

- Growth in the freight transport market in cities
- Changes in localisation of companies
- Development of shopping centres
- Increased demand of express deliveries
- Increased use of heavy vehicles
- Competition results in more efficient supply chains

More goods transported and higher time pressure require a deeper understanding of national and international trends in freight transport. The lack of empirical work related to freight transport in cities is often pointed out in international studies. This survey introduces new knowledge related to Norwegian city distribution. In the project we analyse trends and calculate statistics for use in future planning projects related to freight transport in Norwegian cities.

Changes in transport distances

Consolidation of goods and centralisation of stores and terminals could be identified through studies of transport distances. Table 1 shows changes in this indicator for a five year period. The calculations represent an average of 16 Norwegian cities.

Table 1. Changes in per cent 1993/94 to 1998/99. 16 Norwegian cities.

	Average transport distance for loaded vehicles	Average transport distance for empty vehicles
Transport within the city	26 %	2 %
Transport in/out of the city	15 %	1 %

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In the chosen time period distances increased by 26 per cent for the urban transports. For longer transports to/from the city the increase in transport distance on average was 15 per cent. At the same time the transport distances for empty vehicles changed only marginally. This result indicates more efficient logistics at the end of the five year period.

Amount of goods transported per citizen

In the project several indicators for measuring freight transports were used. Table 2 presents average amount of transported goods per citizen per year. In the table “Internal” transports represent trips within the city. “County” transports are transports between the city and the surrounding county. “Rest” represents long distance transports and are not included in the first two categories.

Table 2. Average tonnes transported per citizen. 1993/94-1998/99

Cities	1993-1999. Vehicles < 3,5 tonnes. Tonn per citizen per year				Vehicles > 3,5 tonnes. Tonnes per citizen per year			
	Internal	County	Rest	Total	Internal	County	Rest	Total
Sarpsborg	1.6	1.1	0.2	2.9	35.9	29.2	18.7	83.9
Fredrikstad	2.3	0.9	0.2	3.3	23.0	20.3	19.9	63.2
Oslo	2.1	0.8	0.2	3.1	24.2	13.1	20.8	58.1
Hamar	0.7	1.2	0.4	2.3	20.6	22.6	25.5	68.6
Drammen	1.6	1.5	1.3	4.4	30.2	24.0	38.0	92.2
Sandefjord	0.9	0.9	0.1	2.0	22.0	8.5	13.9	44.3
Larvik	1.0	0.8	0.4	2.2	66.9	15.9	42.4	125.2
Skien	0.8	1.2	0.2	2.2	29.5	15.1	21.8	66.3
Kristiansand	2.3	0.5	0.2	2.9	37.7	16.7	19.7	74.1
Sandnes	1.2	1.7	0.0	2.9	26.9	37.9	2.6	67.4
Stavanger	1.4	1.4	0.0	2.8	15.9	27.4	9.6	52.9
Bergen	2.1	0.4	0.0	2.5	22.2	7.8	5.3	35.4
Ålesund	2.4	1.0	0.0	3.4	32.9	30.8	13.0	76.7
Trondheim	2.8	0.5	0.1	3.4	29.9	9.5	16.3	55.7
Bodø	1.1	0.1	0.0	1.1	35.2	8.2	1.6	45.0
Tromsø	2.0	0.1	0.0	2.1	27.9	4.6	3.7	36.3
Alle	1.9	0.8	0.2	2.9	26.9	15.3	16.4	58.6

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The table shows that in Larvik, a city located close to considerable industrial activity, large amounts of goods are transported compared to the size of the city. Other cities with large quantities of road goods transport are Sarpsborg, Kristiansand and Bodø.

We see that in Rogaland County, with Stavanger and Sandnes as major cities, the petroleum activity generates considerable freight transport in the district.

Drammen is often included in transports between counties. The activity in the port of Drammen and the short distance to Oslo explain the result.

We find the largest amount of local goods carried by vehicles under 3.5 tonnes in Trondheim (2.8 tonnes per citizen per year). In six other cities our calculations indicates more than 2 tonnes of goods carried per citizen per year.

Administrative resources used on freight transport in cities

In the project we used measures on urban freight planning within the Norwegian cities, and compared the results with international studies. A survey showed that only 1 of 14 Norwegian municipalities have developed plans for urban freight transport, compared with 42% in an international study. In Norway only 1 of 14 city municipalities meet

representatives of the transport companies more than 5 times a year, while the corresponding number in the European study is 21%.

Conclusions

Results in our study confirm the hypothesis that there have been increased consolidating of goods in Norwegian cities. Calculations show that in the period 1993-1999 the total number of trips in 16 major Norwegian cities increased with 5%. At the same time the corresponding load per vehicle increased with 36%. The numbers in table 2 indicate that the total volume of goods transported in Norwegian cities depend on the industrial activity in the local area. Our calculations also show that the number of vehicle trips is influenced by the growth in the business and the retail sector.

Despite higher efficiency in the freight transports, the municipalities in the majority of the Norwegian cities observe an increasing number of conflicts between freight transport and regular traffic. Only 1 of 14 cities answers that there exists specific plans for urban freight transport in the city. In a European survey the corresponding number is 42%.

These results indicate that more resources should be used on urban freight transport planning in Norwegian cities. In the report, examples of solutions are mentioned; such as weight regulations, environmental zones and regulations of parking areas.