



Overview and analysis of goods flows in central Borås – SURFLOGH – Update 2023

1. Introduction

1.1 Background and purpose

Borås stad participates in the Surflogh project, with the aim of development and test of a solution for consolidation of goods to the city center. In order to establish a good basis for the development process, and to set appropriate direction and focus for the work, there was a need to create an overview of the current situation and potential regarding goods traffic, as well as looking into different possible general solution types.

1.2 Objectives

The objectives of this study has been to create an overall view of the goods flows to Borås city, and to briefly evaluate the feasibility and potential of different kinds of business models used in similar services around Europe. Further, key figures from the solutions used in the project have been added.

1.3 Methodology

The freight analysis has been based on three different studies:

- 1: Interviews with retailers in the area regarding mainly routines, demands and qualitative issues regarding goods and deliveries.
- 2: Registration of deliveries and shipments to retailers in the area during one main and one complementary 3 week period.

3: Comparison to a major freight study recently performed at the Nordstan shopping center in Gothenburg, where statistics to certain retail chains and types of companies have been used to complement the data collection from Borås city.

4: Meetings and discussions with transport companies operating in the area during 2020-2022.

2. Current situation in Borås city

2.1 Businesses

The area studied comprises just over 200 businesses in the city center of Borås. With few exceptions, the businesses studied are located on the streets marked on the map below:



Picture 1: Overview of the focus area for consolidation of goods in Borås

Of the companies, the focus has been on retailers in different branches, which constitutes about a third (just below 70 companies) of the businesses in the area. From a goods consolidation perspective another third of the companies are of interest (bigger offices, hair/nail/beauty services etc). The last third mainly consists of very small businesses/offices, but also different types of grocery stores, which have been excluded, since handling of tempered and perishable goods isn't supposed to be included in the first phase.

2.2 Traffic regulation system

The main parts of the streets in the designated area are regulated as pedestrian zones. Some intersections with other streets are walking speed areas, and a few are "regular" streets (with pavements, parkings, loading bays etc).

The pedestrian zone regulation means that only authorized traffic is allowed to enter the streets (ie residents, deliveries, emergency transporter).

There are no general further restrictions regarding access to the pedestrian zones, like time windows (however used for loading bays in some street segments), vehicle length or similar.

3. Results, and overall potential assessments

3.1 Structure of the study

Almost all of the identified retailers were contacted (most by physical visit, but some by phone), regarding a short interview, as well as an inquiry for registering deliveries and shipments.

The reception among the stores was varying, with most of the retailers positive to participate in the study. A few businesses declined to participate, and in some cases it turned out to be tricky to find the right contact person to carry out the interview or registration of deliveries.

Out of a total of about 60 contacted retailers, complete data were obtained from 27. Regarding 15 retail chains, data was available from almost identical stores from the Nordstan analysis, so in the end qualitative data could be put together for 42 stores.

The available datasets have been compiled into three different cases:

Case 1: Consisting of 42 retail stores. Actual data collected from 27 stores, while data from similar stores (same retail chain and similar size) in Nordstan have been used for 15 stores.

Case 2: The previous 42 retail stores combined with another 25 stores in the area. Regarding the additional 25 stores, no data were collected in Borås, and no feasible reference data was available from Nordstan, so conservative estimates representing "small retail stores" were used.

Case 3: Another 76 offices, hair-, nail-, beauty-service businesses were added to the 67 stores. Very conservative estimates used.

3.2 Goods volumes

The available data from the different sources has been elaborated to illustrate approximate daily volumes of pallets, roller cages, and parcels to the designated area (the number of other types of shipments were so low that they don't affect the total values to any significant extent).

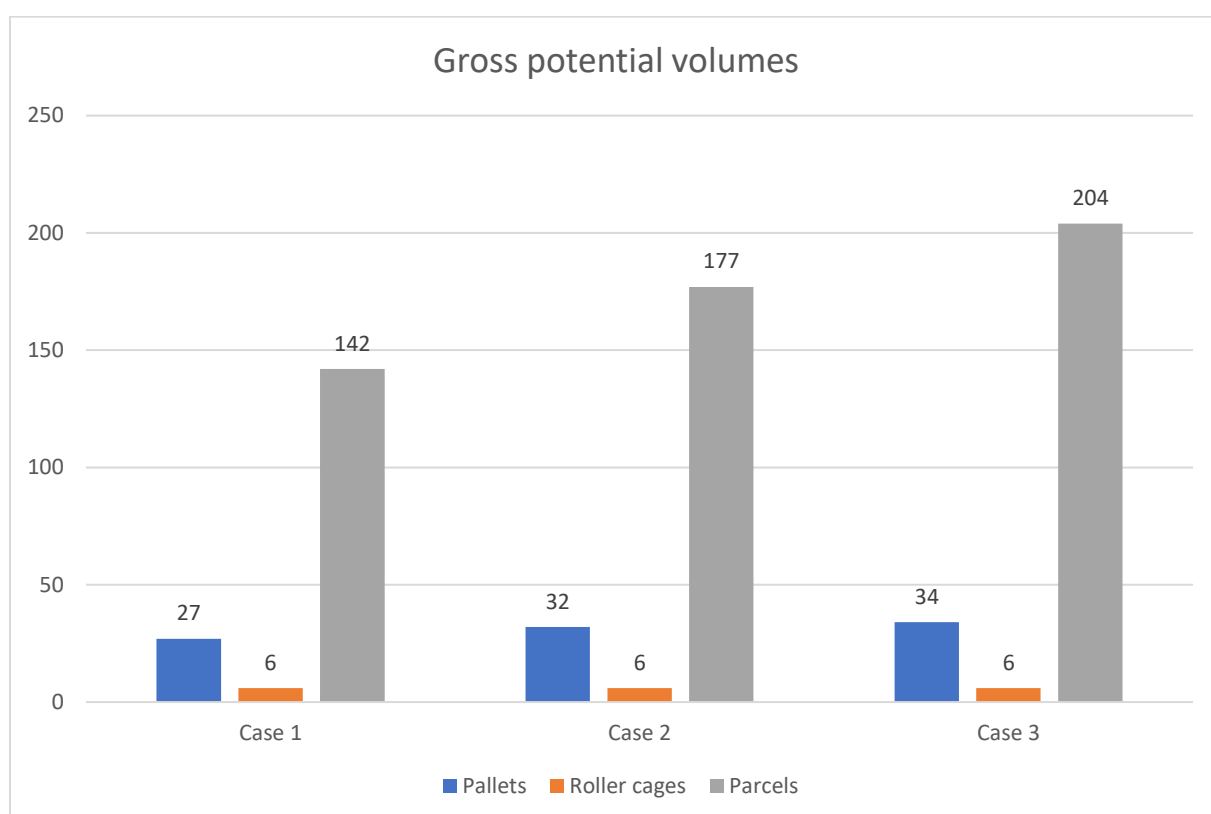


Diagram 1: Gross volumes regarding deliveries to the city center

The margin of error must be considered to be very large, especially regarding the difference between Case 2 and Case 3. This does however not affect the total estimated gross volumes to any significant extent. The total volumes distributed daily to the area corresponds to about 2 truck loads of pallets (heavy), and between one and two light duty truck loads regarding parcels and roller cages.

Whichever solution chosen, it's not considered realistic to be able to consolidate any major part of the goods volumes above in short to medium term. The amount of goods possible to consolidate is however, as well as the possible impact to traffic volumes, strongly dependent on the chosen type of solution.

3.3 Transport operators

A total of 16 different companies have been identified for delivering goods to businesses in Borås city. The main volumes are concentrated to a few dominant actors, such as PostNord, Schenker, DHL, DSV and UPS.

The share between the volumes of pallets, roller cages and parcels are illustrated in the figures below. The figures are based on the data collection from the 27 retail stores in Borås city.

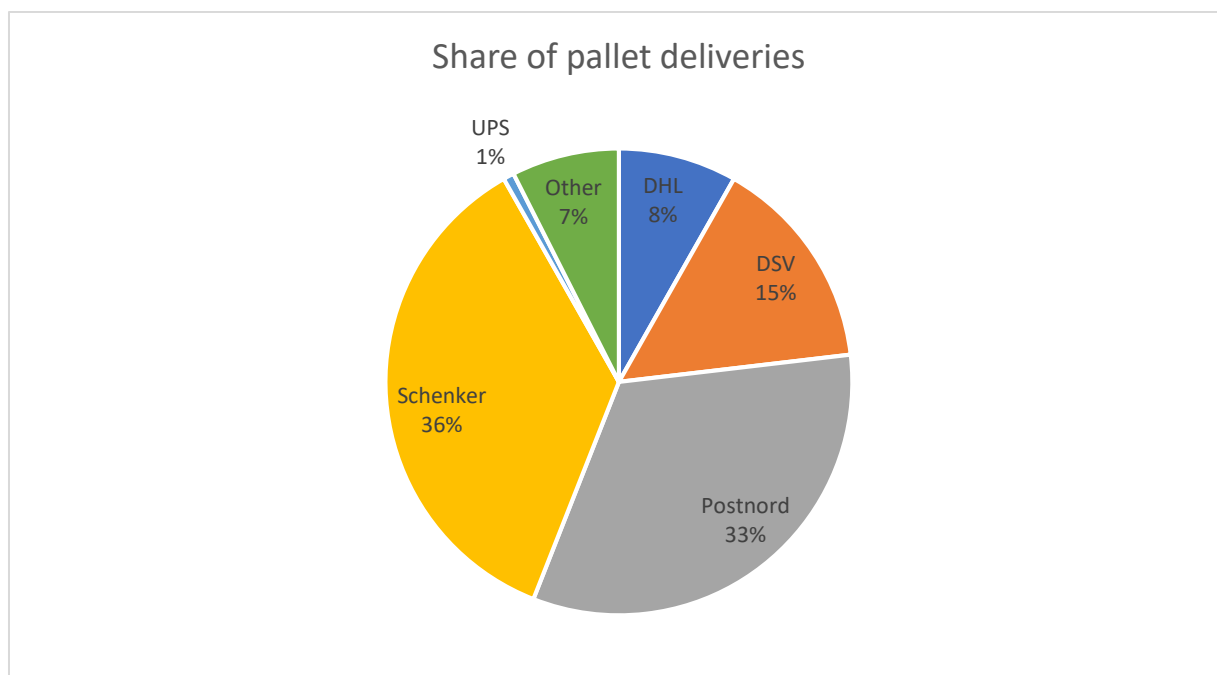


Diagram 2: Share of pallet deliveries among transport operators

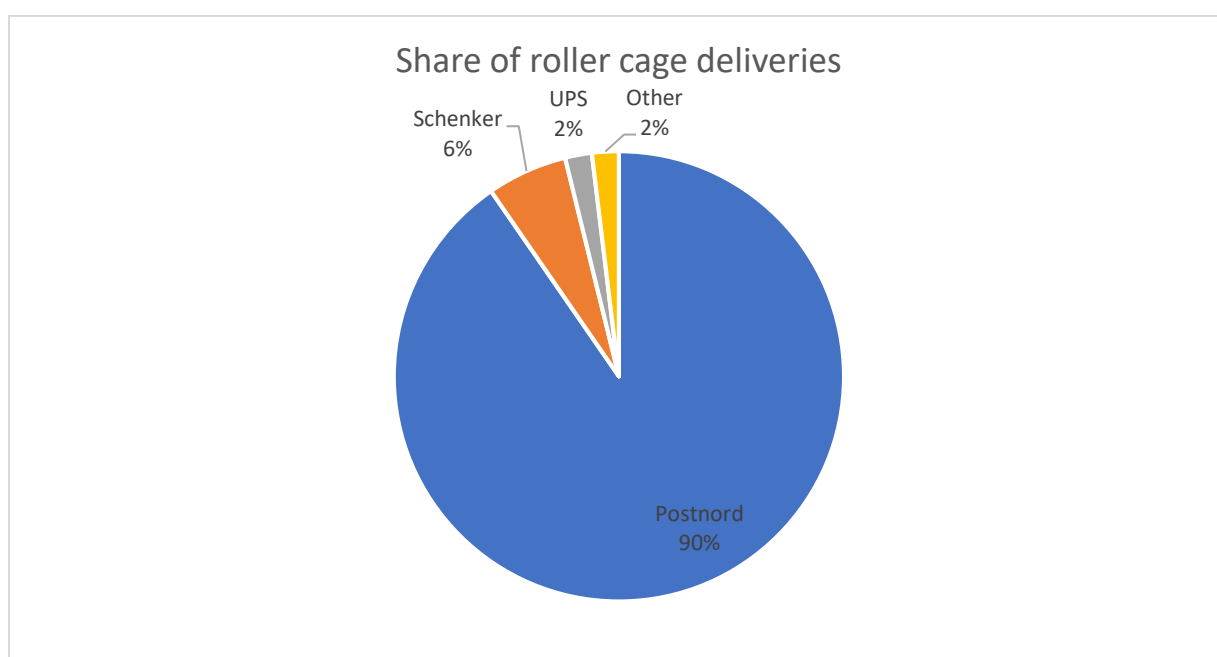


Diagram 3: Share of roller cage deliveries among transport operators

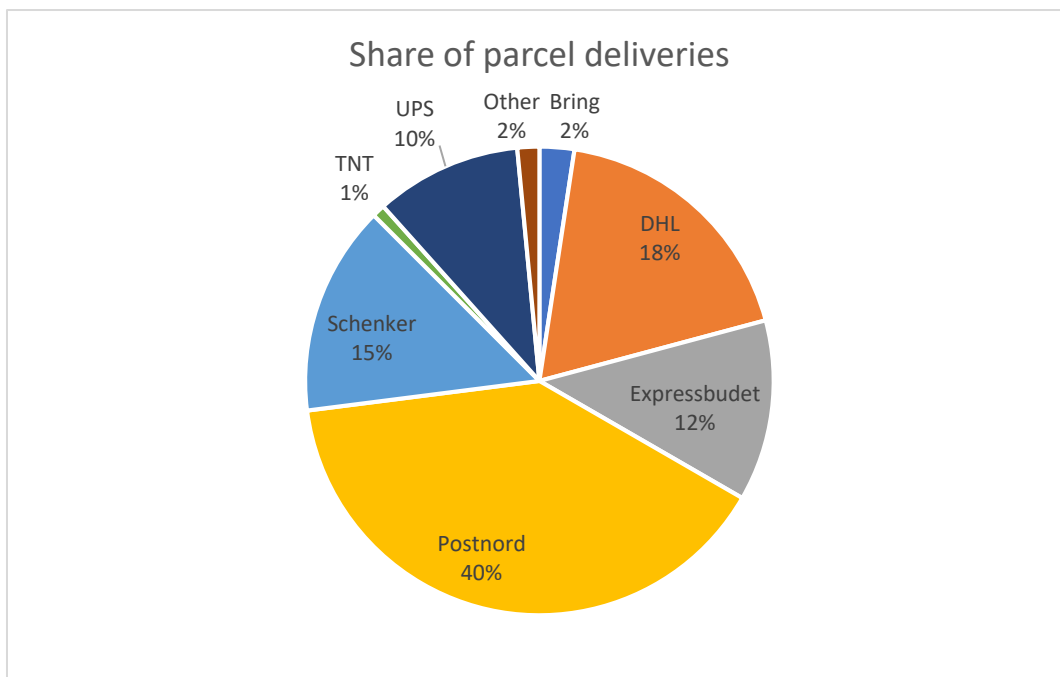


Diagram 4: Share of parcel deliveries among transport operators

More than half of the retailers were frequented by just one or two transport operators per day. The figure below is based on Case 1 (42 retailers with accurate data sources) and illustrates how many stores that are frequented with 1-5 or 5+ transport companies each day:

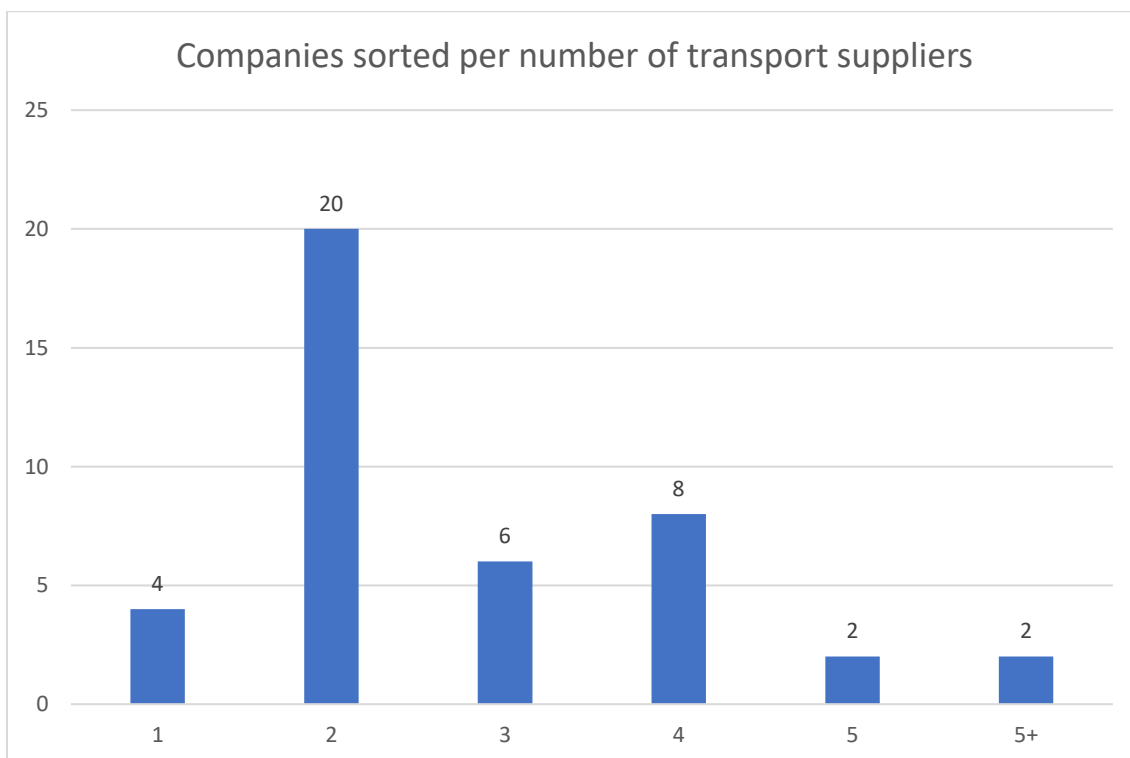


Diagram 5: Companies per number of transport suppliers.

The actual impact on the traffic volumes related to goods distribution are very connected to the number of transport operators affected. If just the goods from one transport operator is handled by a possible consolidation service, the effect may be quite marginal, with some possible optimizing effects for the specific area. The best effect and efficiency is reached by consolidating the flows from multiple minor transport operators, because it both affects several vehicles, as well as it may be a large practical potential to drastically reduce the number of vehicles used. Transport providers handling bigger volumes do in general have higher load factors, which decreases the possibilities to reduce the number of vehicles to various extents.

3.4 Waste and recycling material

The collection of waste and recycling material constitutes a very significant part of the freight transports within Borås city. During the feasibility study, discussions have been held with two large operators in the area:

Borås Energi och Miljö AB: A company owned by the municipality of Borås, and the stakeholder responsible for collection of food and household waste (a municipality responsibility in Sweden), which also have contracts for collection various volumes of other fractions from businesses.

Borås Industriella Renhållning AB: A private company which operates in western Sweden, and that has a big market share regarding recycling material in Borås city. The company was later purchased by Remondis, which didn't want to participate in the project.

Some historic base figures regarding volumes have been obtained from Borås Energi och Miljö:

Number of bins per week	190 lit	240 lit	370/400 lit	600/660 lit
Household waste	0,5		11	33
Glass	4,7		1,7	
Plastics	1,5		0,23	1,12
Office paper	6,58		1,12	
Metal packaging	0,77		1,62	
Paper packaging			1,42	
Plastic packaging			0,12	
Confidential documents	2			
Sorted bags	4	25	23,5	25

Magazines	1,5	0,5	3,5	1,5
Cardboard	2	0,5	2	18,23
Food waste	23	5		
Sums exkl food.(week)	23,55	26	46,21	78,85
Sums exkl food.(day)	4,71	5,2	9,242	15,77

Table 1: Historic volumes of different fractions collected by Borås Energi & Miljö in the focus area of Surflogh Borås

The numbers above corresponds to a significant part of an employment, and the combined volumes of both companies most likely corresponds to at least a halftime employee.

4. Development and results

4.1 General development

During the last years, a consolidation within the transport sector has taken place, where some actors identified early in the project has either been purchased, or initiated collaborations with other companies regarding distribution of various goods types in Borås. This has led to a significantly lower potential for consolidation of goods (ie to obtain traffic reduction). According to some of the larger freight forwarders, the volumes of goods to the city center have also dropped (especially during the pandemic), however a slight recovery has been notified during the last year.

Regarding collection of waste and recycling material, the market situation has remained more stable during the project period.

4.2 Key facts – Good Goods

The establishment of the Good Goods concept has resulted in replacement of a diesel distribution van with an electric van, as well as replacement of a heavy refuse truck with a custom built electric vehicle (car and hydraulic trailer) in sensitive areas in the city center.

Key figures from the Goods distribution:

- Start of pilot: 2019-12-11
- Vehicles in use: 1 Vw Crafter (electric)



- Operated by local haulier Stures Åkeri
- Goods volumes/day: 40-45 shipments
- Number of businesses served daily: ca 40
- Number of businesses served in total: ca 100



Picture 2: The electric distribution van used within Good Goods

Key figures from the waste collection:

- Start of pilot: 2020-06-01
- Vehicles in use: 1 Goupil G4 with hydraulic trailer
- Operated by the municipal company Borås Energi & Miljö
- Volumes/day: 10 pickups
- Number of businesses served daily: ca 5
- Number of businesses served in total: ca 10



Picture 3: The electric vehicle used for collection of waste and recycling material within Good Goods

5. Conclusions

It has proved to be quite a challenge to reach a "take up" of a larger part of the goods flows in the city than from one or a few operators, which is due to a number of factors (competition, responsibilities/liabilities, general interest for consolidation etc.). However, with the significant volume from DHL as a base, the service already handles a significant part of the overall goods flows of parcels in the city center (around 20%), and is also possible to run efficient enough to stay in business for a foreseeable future. The operator, Stures Åkeri, also have a clear intention to develop the service further.

The Waste collection service has proved to be most feasible in the most crowded parts of the city center, since the handling cost for waste is significantly higher than "conventional" waste collection when comparing on a larger scale. The handled volumes of waste and recycling material within the service may only represent 5-10% of the total volumes in the central city if developed according to present plans, but the contribution to a more pleasant and safe environment in the streets and park areas where the vehicle is used is significant.