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Measure Evaluation Results

UTR 7.4 Distribution Centers for Fresh and perishable Goods

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Executive Summary

A clean and accessible city centre requires good organized freight logistics. Efficient goods supply contributes to the development of local economy. The city of Utrecht is looking at alternatives for freight logistics and especially for supplying catering businesses. Utrecht recognizes that catering delivery service requires a specific logistic to guarantee the catering quality, to fulfil the requests of the customers and to deal with the delivery time windows regulation. Catering goods are usually delivered several times in a week which increases the freight traffic in the inner-city. The CIVITAS MIMOSA measure seeks to elaborate and implement a sustainable catering delivery service in Utrecht. The concept is based on bundling fresh and perishable goods in an Urban Distribution Centre and using cleaner freight transport vehicles for the distribution. The overall objective of the measure is to contribute to reduce freight traffic and therefore to improve air quality in the inner-city of Utrecht.

The measure was implemented in the following stages:

Stage 1: Exploration of bundling fresh and perishable goods supply (*March 2010- August 2010*) – On behalf of the city of Utrecht a research about different alternative methods for bundling fresh and perishable goods was conducted. The research consisted of a desk research and two group discussions. with the different parties involved in supplying catering business in Utrecht. In the group discussions different bundling options identified in the desk research were discussed. This exploration resulted in two most promising bundling concepts for Utrecht.

Stage 2: Elaboration of a Concept Business Plan (*August 2010 – April 2011*) – Based on the information provided by desk research and the group discussions a market analysis of the situation in Utrecht was made. The city of Utrecht organised a workshop to present, discuss and validate the results of this analysis to elaborate a concept business plan for a pilot project with bundling fresh and perishable goods. This concept business plan was used by the city of Utrecht to initiate this pilot.

Stage 3: Investigation for the implementation of a pilot project (*May 2011- May 2012*) – Mariaplaats, a neighbourhood located in the centre of Utrecht, was selected as focus area for the implementation of the pilot project. This area was selected as it hosts a lot of catering businesses, together with a pedestrian area, some one way streets and streets intensively used by cyclists. Besides this there is an active entrepreneurial association for catering/hospitality businesses, which made it easier to contact and involve the businesses. An intensive field-research had been conducted in the whole focus area to identify the current freight logistic and transport activities and to assess the degree of interest among the stakeholders involved and identified target groups (municipality, catering business sector and freight transport provider) to participate into the pilot project.

However the interest for the measure among the stakeholders in Mariaplaats was insufficient to start the pilot project. Efforts had been invested to encourage them to participate, raise their awareness and especially to identify reliable partners to implement the pilot project. Finally a transport company, Hoek Transport, was interested in conducting a pilot project in 2013 in the whole city centre with their Cargohopper (UTR 7.3) with an extra cooling unit. This pilot is however a private initiative and not directed by the municipality.

Since the measure has been partly conducted at this stage of the project, the evaluation focused essentially on the process evaluation through standardized forms. The main

barrier of implementing the measure is the major changes that a bundling good delivery system requires in the individual organisation of the catering providers. The delivery service that providers are currently offering allows them to establish a personal contact with their customers and to have control on the quality of the delivery service (ensure fresh goods, be flexible to deliver in time and to adapt the service according to the customers requests). Catering providers do not see benefits for them to shift from a traditional delivery service to a bundling good delivery system. Besides this there are no good examples of bundling fresh goods and many catering businesses have more urgent worries due to the economic crisis and they believe that delivery regulations are the responsibility of the municipality.

However, the awareness among catering providers on the negative impact that high freight traffic produces in the inner-city had been a **driver** for the measure. Reducing freight traffic contributes to improve the liveable quality of the inner-city, which will have direct positive impacts on catering providers business. Catering providers are aware on the pressing necessity to shift the current freight transport towards a more sustainable system.

The implementation of the measure pointed out several factors which should be taken into account in the future implementation of the measure. It can be also useful to give a particular attention to the following **recommendations** for the elaboration of similar measure. First, it is important to clearly communicate on the overall objective of the measure - reduce freight traffic in the inner-city - in order to raise public awareness and gain the interest of different stakeholders. A bottom-up communication form, initiated by catering providers themselves, contributes to raise the acceptance from the beginning. In this case the municipality would have the role of facilitator instead of driver of the project. A second lesson learnt concerns the focus area for the implementation of the pilot project. This one should be strategically selected to cover the entire area where catering providers are currently working. That will raise the interest among catering providers to participate into the pilot project. Finally, the bundling delivery concept should offer concrete and direct benefits to the catering providers.

The success of such a measure depends on the ability of the stakeholders to change their behaviour which requires a step-by-step process in a long-term perspective.

The results of the measure give an assessment of the current catering delivery system in Utrecht. The findings can be useful for the future implementation of the pilot project which will be conducted by Hoek Transport (Cargohopper) in 2013. They are relevant sources to complete the elaborated Concept Business Plan.

As a pioneer measure in the Netherlands, the outcomes of the field-researches point out the challenges that a shift from a traditional delivery system towards a bundling delivery service is faced and allows to draw critical recommendations for the design of similar measures in the Netherland and in other European cities.

A Introduction

A1 Objectives

The measure objectives are:

High level objective:

- Improve air quality
- Increase of modal split towards more sustainable modes

Strategic level objective:

- Increase the use of more energy efficient freight distribution

Measure specific objective:

- To reduce road freight transport (and resulting PM10, NOx and CO2 emissions) to catering businesses in the city centre by enhanced bundling
- To deploy cleaner freight transport vehicles (cleaner than the minimum level required for entering the low emission zone)
- To achieve a considerable increase of bundling in transportation of perishable goods, through an Urban Distribution Centre (UDC) or similar concept.

A2 Description

More efficient and sustainable city distribution concepts are developed and implemented to realize a liveable and attractive city. A clean and accessible city centre demands good organized freight logistics. Efficient goods supply is also necessary for city economics. In this case the city of Utrecht is looking at possibilities for freight logistics and especially for supplying catering businesses.

To manage freight logistics the city of Utrecht developed a city supply plan for the city centre in 2003. In 2008 an update was made and presented as a supply profile. This profile shows that supplying catering is different from shopping supply. In general catering businesses have fewer suppliers but more and smaller deliveries in a week. Logistics for catering businesses also deal with specific problems like requirements for distribution of fresh food, complaints from purchasers and problems with delivery time windows.

In general there are different alternatives in Utrecht to supply the city centre more efficient. Examples are Cargohopper (www.Cargohopper.nl) (MIMOSA UTR 7.3) and Stadsdistributie Utrecht (SDC: city logistic centre: www.hoektransport.nl, www.gls.nl, www.dhl.nl, www.tnt.nl). Most of them however are aimed at more 'simple' freight without special treatments. Catering businesses deal with hygiene requirements for fresh, perishable and frozen foods and there are no attractive supply alternatives. Although catering businesses have problems with delivery time windows and fragmented supply (a lot of different small exclusive suppliers) which results in a lot of traffic. Therefore it is useful to investigate possibilities to cluster catering supply in the city centre.

This measure aimed to improve air quality by reducing road freight transport to catering businesses in the city centre and the use of cleaner freight transport vehicles, achieved by more bundling of catering supply in the Utrecht city centre by means of an urban distribution centre or similar concept.

First of all the possibilities to bundle fresh and perishable goods were explored. If this showed attractive opportunities, the measure continued with the development of a concept business plan for bundling supply of the catering business. This concept business plan should be tested with a business case. This business case will be a pilot with catering supply in a defined area of the city centre. The plan was to organize the pilot within the CIVITAS MIMOSA period, however it was difficult to organize and enthusiasm the catering businesses and suppliers for this pilot. This took more effort than expected, but in the end a logistic partner was found that was willing to conduct the pilot. This pilot is now planned for the beginning of 2013. This pilot is a private initiative and is not directed by the municipality. However through the pilot the pros and cons can be tested and the municipality can use this knowledge.

In this report the results of different RTD activities are written: research about the possibilities of bundling and research among catering businesses and suppliers in the pilot area. And the activities, barriers and drivers during preparation and organisation of the pilot are reported.

B Measure Implementation

B1 Innovative aspects

The innovative aspects of the measure are:

- **Targeting specific user groups** – the innovative aspect of this measure consists of the fact that until now, distribution centre-approaches have been solely directed towards simple goods (packages, pallets, rolling containers), and not towards the category 'dirty, fresh and perishable, cumbersome'.

B2 Research and Technology Development

In the R&D phase of this measure two surveys have been conducted. First a survey of the market potential and needs was carried out and a business plan has been set up. After the choice to continue and the choice of a location in the city, research was conducted among entrepreneurs at the pilot location, on the willingness to bundle supply of catering businesses.

The measure started in March 2010 with **a research of market potential** and needs. In this comprehensive research various analyses have been carried out:

- an inventory and SWOT analysis of the current situation in the centre of Utrecht with regard to fresh/perishable food products (how many vehicles/companies involved, delivery times, etc);
- existing policies and goals of the City (e.g. Air Quality Plan, Environmental Zone);
- the barriers in the supply of fresh and perishable food products were identified through desk research, 2 round table sessions and 1 workshop with involved parties (Autumn 2010);
- an analysis of the market: which parties are active, what is their potential, what are their needs and wishes;
- what are the various options for bundling products like these and a SWOT analysis of each of them (via water, by bicycle or on road; new concepts versus existing concepts; both local, national and international);
- analysis of which are the basic requirements that the most promising options should fulfil;
- analysis of which measures could be needed from a governmental level (such as local exemptions).

The two most promising options for Utrecht were, according to the report:

- Cross-docking: large suppliers take cargo from small suppliers with them. Existing infrastructure of these transport companies/large suppliers will be used. Some of these systems already exist in the Netherlands. With this concept, the small supplier is still in contact with his customer and there is no direct competition with other products. The large suppliers usually ask a distribution fee and there are some legal and financial angles, concerning the responsibility of the quality of delivered goods that should be arranged;
- (Web)Portal system (by independent professional transporter): this concept is aimed mainly at small and middle-sized suppliers. A new (online) selling system would be set up, but with the existing infrastructure of a transport company. Catering businesses can find many different food-products from various suppliers on one website and order them there. The goods will be collected from the various suppliers on a central location and delivered in one package to the catering business.

For these two options a SWOT analysis, an indication of the impact and possible adjustments to the local situation in Utrecht are described in detail in the research report. Afterwards a concept business plan was developed for the implementation phase, including a list of the parties that should be involved and a proposal for the monitoring and evaluation of the effects.

Besides this the following lessons were learned from the research:

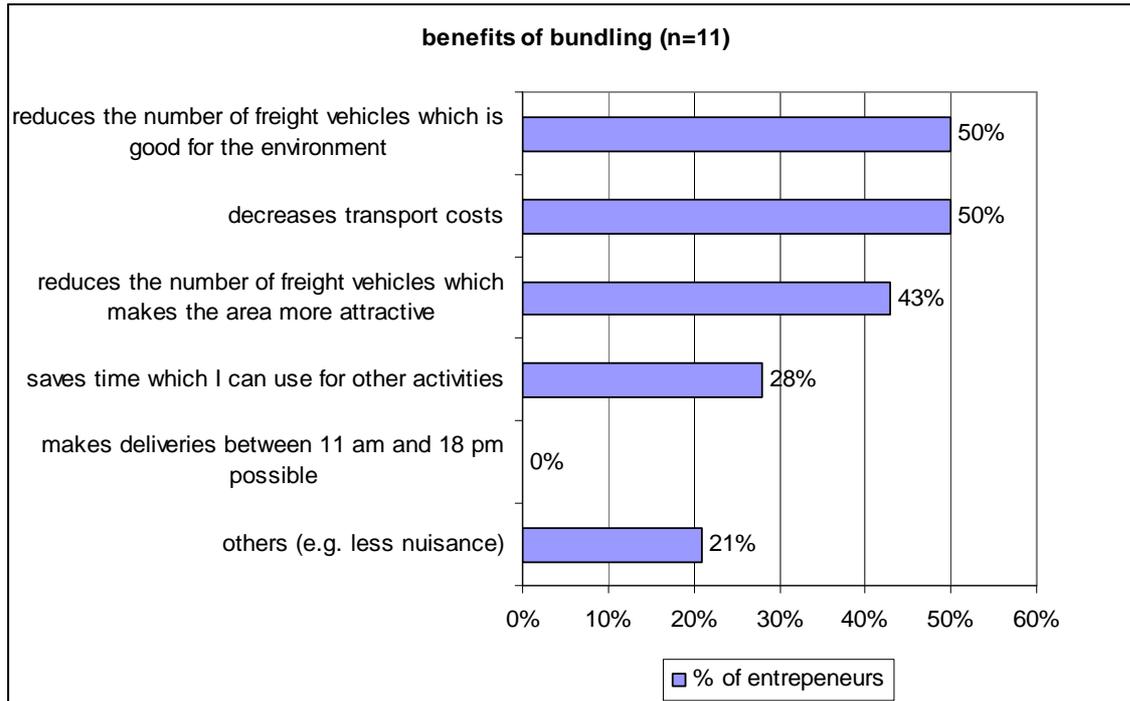
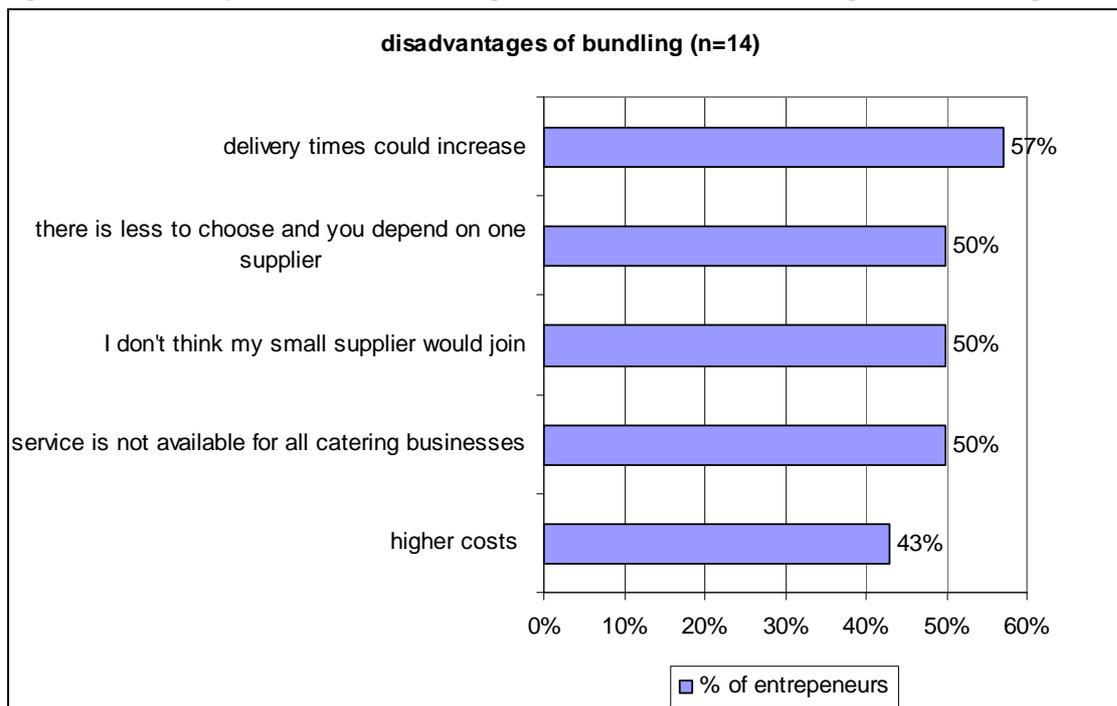
- The obstacles related to deliveries in the centre that market parties identified are mainly a result of the historical character of the inner city and the size (i.e. small-scale) of the parties involved. When a company is small, more efficient delivery through bundling is very difficult to realize.
- Deliveries to restaurants, hotels and bars are characterized by high frequency and relatively small volumes. Here are chances for increased efficiency in delivery. Still, these businesses indicated that they would prefer bundled deliveries (not only perishables, also other), flexibility is important to them, as is the possibility to choose their supplier.
- Large suppliers and transporters experience problems with the limited delivery time windows for the city centre. They constantly look for optimization. However, to have loyal customers personal contact is essential. Besides it's necessary to have sophisticated equipment for all types of deliveries.
- Analysis showed that there is hardly any increase in efficiency possible at large suppliers/transport companies.
- The wish of the hotels, restaurants and bars is very important to get support for a pilot. Being the customer, they have the opportunity to ask their supplier and transport companies to cooperate in solving their supply problems. Restaurant owners can for example 'force' smaller suppliers to deliver their goods to a large supplier (cross-docking) or to an independent transporter (via (web-) portal).
- In both concepts, good information towards all parties is very important. Not only about the concept but especially about the specific benefits for the parties involved.
- Often there is much uncertainty about the ambitions, wishes and responsibilities of all actors (both hotel/restaurant/bar owners and suppliers or transport companies) with regard to bundling options. Especially problems or wishes of small suppliers are often unknown. A municipality can facilitate a better exchange of information.
- Participation of (in principle all) hotels/restaurants/bars in the inner city centre is essential. Without their cooperation the chance of success is small.
- Reasons for hotels/restaurants/bars to participate could be: 1) costs: reduction in transport costs and time needed to order things and receive goods, 2) comfort: less often needed to make an order and receive goods, no worries about incorrect deliveries and potential returnable goods (glass, cardboard) can be taken immediately, 3) 'Green' image: less transport moves is better for the environment.

With the research results a business plan was developed and the preparations for a pilot were started. A pilot area was chosen in the Utrecht city centre: Mariaplaats. A team was composed with the different involved parties of the planned pilot area (municipality, catering business entrepreneurs, suppliers and transport companies) to start preparations for the pilot.

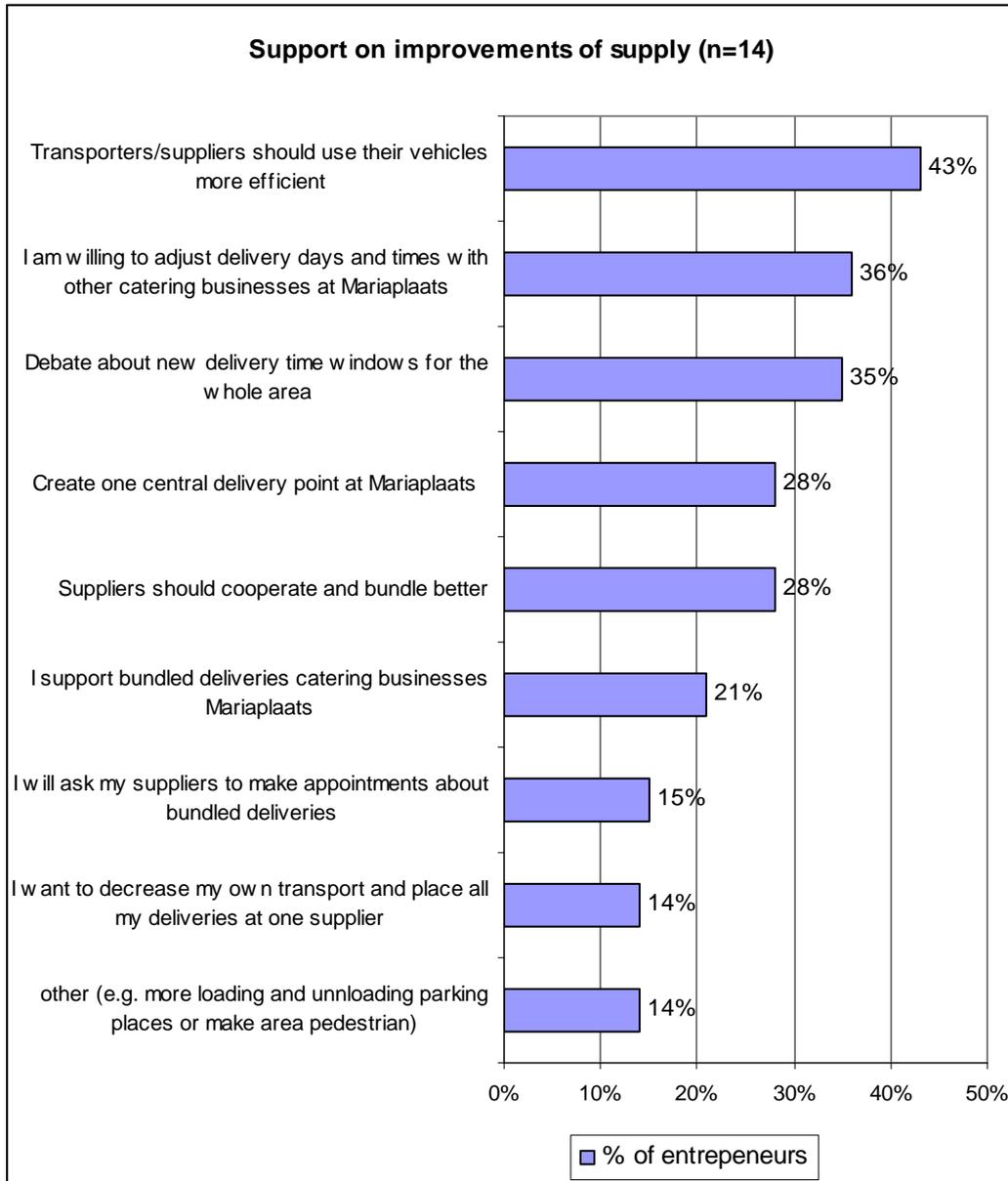
Before a pilot was planned, organised and started, several meetings with stakeholders took place and a **research** was conducted among catering businesses and suppliers in the pilot area about their **willingness to bundle and join the pilot**. Besides this the research gave us the baseline information for the evaluation after the implementation of the pilot.

The research consisted of a questionnaire among the catering businesses in the pilot area and interviews with three large suppliers. In the questionnaire we asked the businesses for their suppliers and logistics, number and type of deliveries, used vehicles etc. As the pilot is about bundling especially the small suppliers are important. The idea is that it is important to have the cooperation of the catering businesses as they being the customer 'force' their suppliers to change their transport mode. 26 questionnaires were distributed; businesses who didn't respond were reminded twice to increase response. In the end 14 questionnaires were returned. Supplementary extra interviews took place with some of the businesses. The results were:

- Most of the businesses in the area receive one or more deliveries a day.
- Delivery times scatter between 7 am till 4 pm, with a peak between 9 and 12 am.
- All businesses have one or more suppliers and receive deliveries ranging from 1 to 16 times or more a week. A third of the businesses also make once or twice a week a trip to supply themselves. One business provides almost all goods himself.
- In total there were 105 deliveries a week on 14 businesses. The businesses reported 124 trips in total per week. About 60% of the reported trips are made by vans.
- Deliveries are provided by catering wholesalers (20%), specialized fresh suppliers (35%), specialized non-food suppliers (25%) and some others (20%). Most deliveries exist of meat/venison/poultry (22%), fish (13%), vegetables and fruit (25%), other food (16%), drinks (9%) and non-food (15%).
- Most businesses have one supplier per commodity group and different suppliers for the different commodity groups. Only in some cases a business has only one large supplier.
- The entrepreneurs thought accessibility of their business was reasonable. Only 3 of them thought accessibility was bad.
- Half of the businesses have no possibility to receive fresh or perishable goods before opening hours (like a dropbox, a key or a person present). Unloading happens most of the time in front of their business (70%) while the vehicle is using a special loading and unloading parking place (57%) of standing on the street (35%).
- Almost all entrepreneurs know the different existing possibilities for bundled deliveries in the city centre (Bierboot, Cargohopper or SDC: City distribution centres).
- Entrepreneurs in the area think environmental improvements and cost reduction are the most important benefits of bundling (see figure 1). Increases in delivery time, is the most stated disadvantage, although all other disadvantages are brought up often. It is striking that the disadvantages are brought up more often than the different advantages (see figure 2).

Figure 1 Results questionnaire catering businesses on benefits of bundling**Figure 2 Results questionnaire catering businesses on disadvantages of bundling**

- Overall the support on measures to bundle supply in the pilot area (Mariaplaats) is not great. The most supported measure is that transporters should arrange more efficiency in deliveries. Only about 3 entrepreneurs support the idea of bundling deliveries of catering businesses at the Mariaplaats (see figure 3).
- When asked about the willingness to join the pilot, only 5 businesses were interested in more information and none of the businesses was positive and willing to join the pilot.

Figure 3 Results questionnaire catering businesses on support on bundling measures

- Analyses of the suppliers gave a list of approximately 25 suppliers in the pilot area. The large suppliers (wholesalers) have a big share; beside them almost every business has one or a few small suppliers. The visiting frequency of small suppliers turned out to be limited.
- The bigger suppliers (Gepu: www.gepu.nl, Hanos: www.hanos.nl and Sligro: www.sligrofoodgroup.nl) were approached separately about their interest and participation in the pilot. Hanos was not interested from the beginning. Sligro was interested but stopped their participation as they thought the pilot too risky and it would have too much impact on their business.
- Gepu was positive about the pilot and willing to join and organise transport and bundling. There were a lot of discussions and attempts to concretise the business concept, but it turned out that there were too much bottlenecks about for example financing and responsibilities to jump in.

Thus the results of this research among participating parties at Mariaplaats were not very positive. Therefore it was decided to invest more time in gaining support from the businesses at Mariaplaats and take more time to arrange a good organisation for the pilot.

B3 Situation before CIVITAS

Utrecht tries to manage freight transport in to the city centre among other by designating time windows for (certain types of) freight vehicles. These time windows are particularly related to opening times of shops, and not to opening hours of restaurants and bars. This makes it difficult for transporters and forwarders of catering businesses to operate within the available time allowed. Apart from that, the fresh and perishable foodstuffs business has very strict regulations concerning hygiene that puts strict requirements on stocking and forwarding.

Until now, the category of fresh foodstuffs has always been considered to be 'cumbersome' due to the strict demands on hygiene and special conditions for transport. It was therefore not suitable for bundling concepts such as an urban distribution centre. However, experiences with the 'Beer Boat' (CIVITAS MIMOSA UTR 7.2), which now also transports cool, deep-freeze storage and fresh foodstuffs, showed that more is possible than initially thought.

Until 2008 catering businesses in general had a lot of small deliveries of different suppliers and therefore generated a lot of traffic in the city centre. From the Utrecht delivery profile (2009) we know that in 2008 in total about 14.300 m³ on products was delivered to the city centre each week. To deliver these volumes each week about 3.700 trips are made to make 7.500 deliveries. In the city centre 28% of the businesses are catering businesses and they are responsible for 28% of the delivered volumes and for 39% of all deliveries (many small deliveries).

B4 Actual implementation of the measure

The measure was implemented in the following stages:

Stage 1: Exploration of bundling fresh and perishable goods supply (*March 2010- August 2010*) – Research about different possibilities for bundling fresh and perishable goods. This research consists of a desk research of available reports and websites of research institutes. Special attention went to the current situation and existing and new bundling possibilities. Besides desk research two group discussions were organized with the different parties involved in supplying catering business. In the group discussions different bundling options identified in the desk research were discussed. The results of this research were reported in deliverable 7.4.2 and described in part B2 of this report.

Stage 2: Developing concept business plan (*August 2010 – April 2011*) – With the information from the desk research and the group discussion a market analysis was made. This analysis took into account the field, potentials and demand. Also determined was which bundling options and concepts were the most promising. These results were discussed in a workshop in November 2010 to validate the results and to compose a concept business plan. The outcome was also included in deliverable 7.4.2 and described in part B2 of this report.

Stage 3: Organizing and gaining support and commitment for a pilot (*May 2011- May 2012*) –The concept business plan will be completed to a definite business plan after discussion with the involved parties and based on an executed and evaluated pilot in the city centre. To organise this pilot the municipality took the initiative to choose a location and gaining support and commitment for the pilot. For the pilot a specific area in the city centre was selected: Mariaplaats (see map figure 5).

Figure 4 Pilot area in the city centre

This area was selected as it is characterised as a location in which are a lot of catering businesses, together with special traffic situations as a pedestrian area, some one way streets and streets intensively used by cyclists. Besides this there is an active entrepreneurial association especially for catering/hospitality businesses (GHOM: Gezamenlijke Horeca Ondernemers Mariaplaats: www.mariaplaats-utrecht.nl) in which 22 businesses are joined, which made it easier to contact and involve the businesses.

In this area enthusiasm for a pilot was checked and a group of representatives of the municipality, catering business and other involved parties was gathered. To get more insight in deliveries of businesses at Mariaplaats and their ideas of bundling research was conducted. Results of this research were not very positive for a bundling concept and a pilot (complete results are reported in the RTD section of this report B2). Most businesses were ok the way it was and the thought it more something of transport of supplying companies to make deliveries more efficient. After this research it was clear that more effort should be put in the gaining of support and commitment with the catering businesses and their suppliers. Several meetings took place. Besides the support of the businesses there was the need of a partner that could conduct the pilot by offering cross-docking. During the discussions it became clear that from the two initial concepts (cross-docking and a (web)portal system, see B2), cross-docking should be the first thing to start with as also for a webportal system a cross-docking point should be available. The cross-docking concept also suits the city distribution politics in Utrecht.

As it was decided to use existing knowledge and experience in this, an existing company was searched with the availability of fresh and frozen storage. As one of the larger suppliers, Gepu, a local wholesaler, was interested in the pilot, they were approached. Several meetings took place and discussions about operation. In the end this cooperation turned out to be too complex as a major bottleneck was that Gepu is a wholesaler and not a transporter. They organise their own transport for supplying but they are not allowed to transport for other companies as a transport company, unless they would organise this within a different business construction.

Meanwhile one of the informed transport companies, Hoek transport (www.hoektransport.nl , offering a SDC (City distribution centre) and introducer and exploiter of the Cargohopper), contacted the city of Utrecht with the offer to facilitate the pilot as they have a cooling unit at the SDC. As they also have cooling units that could be used in the Cargohopper. Further, they want to conduct the pilot with the Cargohopper.

In September 2012 Hoek Transport and the city of Utrecht are looking for the possibilities to cooperate. The city of Utrecht will facilitate this by arranging privileges, the exploitation itself with financial and legal agreements are the action and responsibilities of Hoek. The pilot area is no longer limited to Mariaplaats. As some entrepreneurs have more businesses on different places in the city and/or suppliers have more delivery addresses for one trip, a broader area could be more attractive. At this moment it looks promising

and a pilot could start in November 2012, the first bundled deliveries are expected than at the beginning of 2013.

The concept will be a mix of a cross-docking system and a portal. As Hoek is already a supplier at Mariaplaats and the surrounding area, but as a transporter and not a wholesaler. The municipality has only a moderating role in this pilot and is not directing as it is a private initiative. However the knowledge can be used to decide whether or not bundling measures should be stimulated.

B5 Inter-relationships with other measures

As the pilot of this measure hasn't started yet, there is no interrelationship with other measure as impact concerns. When implementation takes place the measure is related to other measures as follows:

- **UTR 7.2** – City distribution by boat (beer boat): Both measures aim at minimizing the (impact of) inbound freight transport in the city centre.
- **UTR 7.3** – More flexible access for cleaner freight traffic: Also aims at minimizing the (impact of) inbound freight transport in the city centre, and Cargohopper is part of this measure.

All these measures aim at decreasing freight load trips in the city centre.

C Impact Evaluation Findings

C1 Measurement methodology

This measure aimed at decreasing road freight transport and the resulting PM10, NO_x and CO₂ emissions to catering businesses in the city centre, deploying cleaner freight transport vehicles and achieving a considerable increase of bundling in transportation of perishable goods.

As gaining support for a pilot took more time than foreseen, the pilot will only start from November 2012 and on. As there has been no pilot yet, no impact evaluation, but process evaluation took place.

C3 Achievement of quantifiable targets and objectives

No.	Target	Rating
1	Less road freight traffic to catering businesses in the city centre (based on business statistics delivered by companies involved)	0
2	Substantial flow of perishable goods transported via the UDC	0
3	Increase in the deployment of cleaner vehicles to and from the UDC	0
NA = Not Assessed O = Not Achieved * = Substantially achieved (at least 50%) ** = Achieved in full *** = Exceeded		

As the pilot hasn't started yet, no quantifiable targets and objectives were achieved. We expect to achieve them in the near future as in November 2012 the organisation of a pilot is prepared. Expected is to have bundled fresh deliveries in the city at the beginning of 2013.

C7 Future activities relating to the measure

A pilot with bundled deliveries for catering businesses is still foreseen and planned to be in operation at the beginning of 2013. Precise characteristics of this pilot are not clear yet, as implementation plans are discussed and planned now in November 2012.

This pilot is a private initiative; the municipality has no directing role only moderating. However the municipality will spread the lessons learned from this pilot when it is finished.

D Process Evaluation Findings

D.0 Focused measure

	0	No focused measure	
4	1	Most important reason	The high level of innovativeness of the measure with respect to technique, consortium, process, learning etc
1	2	Second most important reason	The measure fits into the EU policy towards clean urban transport (five pillars of the EU Green Paper)
2	3	Third most important reason	The measure fits into the city policy towards sustainable urban transport and/or towards sustainability in general

D.1 Deviations from the original plan

The deviations from the original plan comprised:

- **No involvement of the port authority** – At the start of the measure the port authority was involved as supplying by water was an option, later this option was put away due to the fact that the pilot was planned in an area that can not be supplied from the canals. Therefore the port authority was no longer a measure partner.
- **No pilot and impact evaluation within CIVITAS MIMOSA** – It turned out to be difficult to gain support for a pilot for bundling with the catering businesses and suppliers. Extra meetings were organised and extra time was planned to get more support. Beside this the first possible cross-docking option through Gepu turned out to be difficult to arrange. Therefore the measure was delayed and a pilot and impact evaluation within MIMOSA was not possible anymore.
- **Selection of a new logistic concept delayed** – After the pilot a bundling concept and organizational model would have been chosen to continue with. As the pilot didn't start in time for evaluation, the following stages of the measure were delayed as well.

D.2 Barriers and drivers

In this chapter barriers and drivers are described for each measure phase (between brackets the barrier/driver field number as described in the process evaluation guideline).

D.2.1 Barriers

Overall Barrier

- **The difficulty to get small companies involved (5)** - This difficulty is caused by the following barriers that the companies (bars/restaurants/small suppliers) see in the concept:
 - The relation between supplier and restaurant (customer-client relation): the driver now also acts as a salesman, promoting new products etc. In our concept, the

salesman and delivery function can be split, which in the end in our view can be more effective (more time for your client). But it is not business as usual.

- o Mistrust between large wholesalers and small suppliers if the wholesalers play a central part in the concept: small suppliers are scared that the big wholesaler will take over their client (can be covered by good agreements, but is a difficulty in the beginning).
- o The control over the quality of the fresh good: when passing by the distribution centre the restaurant owners, small catering suppliers, and to a certain extent the bars have to give the control over the product quality check to a third party which they are hesitant against. Maybe therefore a try out with less 'difficult' goods might be an option to convince people of the added value.

Besides this a lot of catering businesses have more urgent other worries due to the economic crisis and they think delivery regulations are the responsibility of the municipality. Therefore there was not much involvement.

Preparation phase

- **The ordering process (4)** - Fresh goods like vegetables are ordered late in the evening; how to make sure they are at the distribution centre on time?
- **The cost structure in the supply chain (4)** - The entrepreneur (restaurant) does not really see what he pays for transport, as they just pay for the product. And for smaller suppliers, especially one-man-businesses, time is not money (it's own time, often no salaries are paid for that time).
- **Small suppliers (4)** – Small suppliers have most of the time a high service level. For instance if a delivery is incomplete they are ready to make an extra trip for this delivery. Probably this is not possible and realistic within a bundling concept, especially in the beginning when the bundling concept is not significant with a few trips a week.
- **Competitive market in economical bad time (4)** – Businesses are not ready to join the pilot if competitive businesses might not or if they don't have a special benefit and a college has. As they expect the change could cost money, they rather like the city to force all businesses to join and all have the same costs and disadvantages then to have the risk of a competitive disadvantage.
- **No good examples (6)** - There are not best practices, as until now there was not a successful fresh bundling project in the Netherlands yet. Most businesses are more likely to join after success is guaranteed or the concept has proven to have benefits than to join a risky pilot. There were pilots and projects with bundling concepts but none of them succeeded, these are not promoting.

D.2.2 Drivers

Overall drivers

- **Trends and durability (4)** - All businesses know that in the end supply in the city centre should change as it is not durable the way it is. This is a driver, although most catering businesses are more likely to wait until they are obliged to change.
- **Local attractiveness (4)** – Most of the local businesses agree that the attractiveness of their bar, restaurant etc. and the surrounding area depends on a low amount of traffic and thus an efficient supply of goods.

Preparation phase

- **Possibility to get outsourced capacity to give the measure a push (9)** - MIMOSA financial resources for subcontractors have been made available to put more manpower on this measure to speed up the implementation. Nevertheless the implementation was still delayed as gaining support was difficult.
- **Good information (5)** – Good information towards all parties proved to be very important: it raises the awareness that business as usual is not optimal for many.
- **Front runners (8)** - Front runners who are able to convince their colleagues might have helped, we had a few. But the proof of the pudding is in the eating, in other words: a try out should be the most convincing. To have a try out you need participants.

D.2.3 Activities

Preparation phase

- **Join existing transport schemes and experienced companies (8)** - Potential risks are the hygienic and food quality requirements. It was therefore decided (and which can be taken as a recommendation for others) to join existing transport schemes and companies with experience in this field, as to not re-invent the wheel.
- **Round table meetings (8)** - In both identified concepts (cross-docking or a web portal system), good information towards all parties is very important. Not only about the concept but also about the specific benefits for the parties involved. To facilitate this, two round table meetings were held in the end of 2010, in which approximately 15 people involved in transportation in Utrecht took part. Follow-up meetings took place during 2011. Another purpose of the round table was to make the ambitions, wishes and responsibilities of all actors (both hotel/restaurant/bar owners and suppliers or transport companies) clearer with regard to bundling options. Especially problems or wishes of small suppliers are often unknown. Utrecht facilitated in better exchange of information. The role of the hotels, restaurants and bars was very important and their participation essential. Being the customer, they have the opportunity to ask from their suppliers and transport companies to cooperate in solving their supply problems. Restaurant owners can for example 'force' smaller suppliers to deliver their goods to a large supplier (cross-docking) or to an independent transporter (via (web-) portal). However, getting those parties really involved is one of the biggest challenges, especially since transport isn't normally their biggest concern.
- **A workgroup was formed (8)** - A workgroup was formed with representatives of the city, catering businesses and other stakeholders.
- **Make exploiting the pilot attractive (12)** - The city of Utrecht searched for different ways to make exploiting the cross-docking more attractive, for instance search for other businesses that could join (shops with local food) or think about transport privileges. Another idea is that the municipality itself could be a customer with the catering in the employees' restaurants in their offices.

D.3 Participation

D.3.1. Measure Partners

- **City of Utrecht** – Traffic and transport department measure leader, promoting the pilot and develop stimulation regulations.
- **B@S Consultants**- responsible for organising the pilot on behalf of the municipality (www.basconsultants.nl)
- **Catering businesses Mariaplaats** – promoting and joining the pilot and stimulating their suppliers to join the pilot: see www.mariaplaats-utrecht.nl for the catering businesses around Mariaplaats.
- **Supplying companies Mariaplaats** – supplying the catering businesses at the Mariaplaats, they should join the pilot and bundle deliveries: e.g. Hesseling, Ibrahim, Bladenis, Egro, Hanos, Efe, Bonne Viande, Egro, Chatteau Briand, Groeneweg, Lindenhof, Driessen, Schmidt, Best Fish, Egro, Hanos, Veerman, Bunschoten, Rungis, Wolderveen, Deutekom, Gepu, Kösum, Sligro, Hanos, Apicius, Vanilla Ventura, Heineken, Inbev, Bavaria, Vrumona, Bart, Margaret Wines, Karakter Wijnimport, Ecken Maurick, Paardekoper, Horesca Zeist, HSB, King, Blijcolin, Myscon.
- **Transport companies Mariaplaats** – transport companies delivering goods at catering businesses at the Mariaplaats, they should join the pilot and make use of a docking/portal system and drop their goods: e.g. Hoek transport.

D.3.2 Stakeholders

- **Residents** – residents living at Mariaplaats will profit from less freight traffic on the Mariaplaats.
- **Other businesses in the pilot area or in the city**- if the pilot is successful other businesses could join. Besides these businesses could profit from less congestion in the city centre.

D.4 Recommendations

D.4.1 Recommendations: measure replication

Bundling delivery of fresh and perishable goods for catering businesses could be attractive for cities that want to **increase cleaner freight transport and decrease inner city freight transport**, having **clustered catering businesses in the city centre with many small suppliers**. When considering a bundling pilot, the following is recommended for success:

- **Larger pilot area** – As some entrepreneurs have more businesses at different places in the city and suppliers have more deliveries in one trip it is recommended to search for some businesses or some suppliers to join the pilot instead of conducting the pilot only in a specific area. In case of more businesses or more deliveries in a larger area, it has no benefit to join the pilot if a trip is made anyway for a delivery in another nearby area.
- **Cross-docking by a transporter** – Search for a party with experience and the facilities for cross-docking fresh and frozen goods. In the Netherlands it is the best to look for a transport company as transporting by a wholesaler for other suppliers is legally difficult to arrange. Beside that it is not their core business.

D.4.2 Recommendations: process (related to barrier-, driver- and action fields)

- **Entrepreneurs as initiators-** Best would be as the plan or idea comes from the catering businesses of suppliers themselves. The municipality should have a leading role in informing all the parties and arrange good conditions.
- **Find frontrunners** – To gain support it is recommended to search for some leading entrepreneurs who can convince others to join the pilot.
- **Take time in convincing participants**– Take into account that changing habits take a lot of time, especially in this case there are no successful examples. Thereby most entrepreneurs think the change and extra loading and unloading generate extra costs.

E References

- Utrecht delivery profile 2009, Buck Consultants International, Nijmegen, 2009, for the city of Utrecht.
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