

Cycle logistics - Moving goods by cycle

EPOMM - Managing mobility for a better future

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Dear reader,

around 60% of all trips in urban areas are related to the transport of goods (this astonishing number ranges from transports in large commercial lorries to simply transporting daily supplies home). By shifting goods under 500 kilograms to bicycles, cycle logistics will succeed in improving the quality of living in our cities considerably.

The term cycle logistics can refer to professional logistics like delivery services, waste collection or small trade services. This usually involves the use of cargo bicycles (2, 3 or 4-wheelers) and bicycle trailers. But at the same time it also refers to private logistics – where regular bicycles, well equipped with baskets, panniers, trailers, etc. are used to transport shopping or leisure equipment. Within the European project CycleLogistics, all these areas of logistics by bike are addressed to make the advantages known throughout Europe. Looking at the potential for cycle logistics, it is evident that this approach is much more than a niche activity. 42% of all motorized trips in urban areas could be shifted to logistics by bicycle (this corresponds to 25% of all trips). Learn more about the

topic of cycle logistics in this e-update. A detailed description about the potential can be found here.

At the upcoming ECOMM2013, there will be a special session on the "MM approach for freight and deliveries". The deadline for the submission of papers is 10 December.



Source: Stichting Oud Obdam-Hensbroek

Back to the future

Already in 1881 the first carrier cycle was used by the British Post Office. A few decades later, many shopkeepers used this type of bike to make local deliveries of bread, meat, milk etc. That is why these bikes are also called baker's bikes or butcher's bikes. Starting from the late 1920's the 'Long John' appeared in the streets of Denmark. This bike had a load-carrying platform inserted between the saddle and the front wheel. Today this model is very popular and is known under the Dutch name 'bakfiets' (read more on the history of cargo bikes on the CycleLogistics website).

It seems that since the last two decades cargo bikes are being rediscovered. Various models, able to transport up to 500 kilograms, and varying in price from 800 to 6000 euros, can be found on the market (see e.g. overview of 67 cargo bikes, the Freight bike inventory list of CycleLogistics and velotransport (G)).

Deliver by bike: growing in many countries

Although especially popular in the Netherlands and Denmark, where even sperm samples are transported by cargo bikes to fertility clinics, also in other countries bike delivery services become more popular. Some examples:

- In Germany, as part of the Climate Initiative, car and bicycle couriers test the potential
 of electric cargo bikes for urban commercial transport in seven different cities (Ich
 ersetze ein Auto, I substitute a car-project). The German Cycle Master Plan 2020
 (Nationaler Radverkehrsplan 2020 (G), English summary) also recognises the potential
 of cargo bikes for last-mile deliveries.
- In **Romania**, the first bicycle courier service in Bucharest started in April 2012. Tribul (the tribe) delivers door-to-door packages throughout the city.
- In May 2012, the city of Gent (Belgium) installed the first public cargo-bike-sharing scheme in Europe. Four cargo bikes are part of the Cambio car-sharing service present in the city. The Flemish government also starts to actively promote bicycle courier services in Flanders, based on the results of a study by the University of Antwerp (in Dutch) investigating the potential of involving bicycle couriers in Flemish logistics. In the meanwhile Velo Fixer goes from house to house in Brussels, fixing bicycles (check out this nice video).
- In Switzerland, already in 1997, a bicycle home delivery service brings your purchased goods from the supermarket to your home by bike. Given the success of the service (21% of the customers changed from shopping by car to shopping by bike or on foot), 12 new services have been implemented throughout Switzerland.



Source: CycleLogistics photo database





Source: CycleLogistics photo database



Source: www.eltis.org



Source: CycleLogistics photo database



Source: CycleLogistics photo database

- The **French** company la Petite Reine delivers yearly 1 million packages with their electric tricycles (Cargocycles, FR) in four big French cities, including Paris.
- In Austria, bikes are used to home deliver medication (G), to clean windows (G) and to bring fresh ice cream (G) into the parks. The municipality of Graz grants up to € 1.000 to businesses and institutions such as schools, housing associations etc., when purchasing a cargo bike, and it includes cargo bikes in their bike rental scheme.
- In the **UK**, cargo bikes are used vor very diverse transports: digital projectors, office supplies, accessories to prepare Japanese pancakes, post packages (like Yellow Jersey Delivery in Coventry), flowers or even test tubes with antibodies... (read more about this in Loads more cycling). At Heathrow and London, even has bicycle ambulances!

Advantages and possible disadvantages

Here are the substantial advantages of using cycles rather than vans to transport goods (based on the extensive study of Transport for London, 2009)

- Lower costs: lower purchase cost, lower running costs (tax, insurance, storage) and no parking costs. GobaX, a German cargo bike manufacturer, calculated that a pizzeria could save 6.300 euros a year if they would deliver their pizza by bike rather than by car. The CycleLogistics project also makes an economic argument for cargo bikes.
- Speed despite congestion: cycles are much less affected by traffic conditions than
 vans and hence are faster and more reliable (need a prove? Enjoy a cargo bike ride in
 the centre of London).
- Allowed in car-free areas: narrow streets, streets where only bikes are allowed or areas of zero access during daytime? No problem for cargo bikes! This is for instance the case in Cambridge (UK), where Outspoken Delivery provides services to over 200 local businesses. Recently, the company won the 'Contribution to reducing the city's carbon footprint' award.
- Lower environmental impact: reduction in CO2 emissions. The University of Westminster calculated a potential reduction of 62% in the centre of London The Hajtás Pajtás bicycle courier company in Budapest (H) frees the congested capital from 100 cars, saving an estimated 150 tons of CO2 emissions annually.
- Green image: an important asset, for example for the British AV2Hire and Gnewt Cargo).
- Social inclusion: no drivers licence is needed to ride a bike! In Bucharest (RO), a paper waste collection service by cargo bike employs disadvantaged people as a first step in their integration into the labour market.
- Better quality of life: no noise pollution, more space for people.

So why is the use of (cargo) bikes to deliver goods not more widespread? According to Transport for London the biggest problem seems to be (mis)perception.

- Companies are worried about **security** and theft of both cycles and payload. This fear proved to be exaggerated as almost no instances of theft were reported during the study. However, the more cargo bikes appear in the city, the higher the probability of theft. In the Netherlands, the Centre of Bicycle Theft now deploys cargo bikes as bait to catch the thieves.
- The **limited range and payload** is also considered to be a disadvantage. But recent models of cargo bikes are able to transport up to 500 kg!. Especially in inner cities the last mile delivery causes problems. In this segment lots are often far smaller than 500 kg and yet they are transported in oversized lorries. Creative solutions are now available to sove this problem. Within the context of the FP7 EU project STRAIGHTSOL, implementing seven innovative urban freight solutions, TNT Belgium will soon start to deliver goods to the inner city of Brussels by using a mobile depot (special truck) in combination with cargo bikes (video). Until the mobile depot is ready for use, TNT cooperates with the tricycle logistics company Ecopostale (French video), using their depot as a base (article).

The city of Berlin has a modular pack station, called a BentoBox, installed near their city centre. From there, cargo bikes transfer packages to the centre and back. The system was first tested within the context of the CityLog project and is now integrated in the regular logistic operations of a courier service (case study on Eltis and another application of the BentoBox in Lyon).

- Driver fatigue and seasonality were also mentioned as factors contra cycling. It is not easy for existing staff to suddenly switch to cycling, especially for small companies.
- Furthermore, several **local factors** might hinder cargo bike use. The Belgian law, for instance, does not allow three or four wheel cycles to drive on bus lanes, in pedestrian zones (before and after the zone is solely open to pedestrians), or contra-flow, while ordinary bikes can. Some cities are very hilly and have cobbled streets. Although even Edinburgh has a cargo cycle delivery service.

But cycle logistics is not only relevant to find commercial but also private logistics solutions, as cars are by far the most used transport mode for shopping (source: ARGUS 2009, p. 9). However, three quarters of these transports could easily be done by cycle.





Source: CycleLogistics photo database

CycleLogistics: the solution

CycleLogistics aims to increase the usage of (cargo) bikes as an alternative to vans and personal cars – with the prime objective to reduce energy usage. Twelve countries work together to target businesses, local authorities, individuals as well as cycle couriers:

- Shop-by-bike campaigns: The Flemish(B) campaign Met belgerinkel naar de winkel (With bell ringing to the shop) was very successful: 80.000 people went shopping by bike during the campaign, in Dutch) and 50% of them they kept riding their bike afterwards. Within the Cyclelogistics project, 15 campaigns will be carried out in 8 countries to promote shopping by bike. Two campaigns, in Vienna and Graz have already been successfully implemented in Summer 2012. The evaluation report is available on the website. Supermarkets and other stores play an important role in supporting cycling to their shops. For instance, in Belgium, Delhaize, a large supermarket with 800 shops all over the country, installs bike parking and offers bike bags at discount prices. A general campaign scheme has been developed and will be adapted to the local conditions in all the participating countries.
- Cargo bike sharing schemes, called Living laboratories, provide businesses the
 opportunity to test cargo bikes and experience their advantages. These are being set up
 in 9 cities differing in their level (beginner, climber, master). The city of Graz has already
 started their living laboratory. They lend 7 different types of cargo bikes to interested
 local businesses. In Brussels they offer 3 bikes, with plans for more.
- Consumer tests: since the purchase of a cargo bikes is quite expensive and cargo bikes differ in some ways from standard bikes, The Danish Cyclist Federation did a user test of cycles, trailers, shopping trailers, bags and baskets. Find the results here.

Moving freight bikes forward: the importance of policy



Source: CycleLogistics photo database

Policy makers can strongly promote cycle logistics, for example they can close a city centre to motorised traffic and allow cycles full access, develop logistics plans that favour non-motorised solutions, to name but a few. As part of the CycleLogistics Project The European Cyclists' Federation has considered what cities in 2050 might look like, and what cities across Europe are doing now to favour delivery by cycle (article). It is important that towns and cities decide on their quality of life but national ministers can also play a leading role. 52 Transport ministers gathered in Leipzig in May this year to discuss improving transport in their countries. 'Rethinking the Last Mile' was one of the opening sessions of the International Transport Forum (see the seventh session recording titled Rethinking the Last Mile.

Cycle Logistics Federation



As a result of the CycleLogistic project, almost 60 cycle logistic companies joined their forces in the first European Cycle Logistics Federation. There are now 120 European companies registerd on the Cycle Logistics Federation website. Together they will lobby, up to the level of the European Parliament, for the promotion of cycling for freight transport. The Federation will also highlight best practice examples for followers, share available knowledge and experience freely among members and establish lobby groups in order to influence relevant stakeholders. In addition opportunities for shared promotions, marketing, etc. will be identified and appropriate information resources will be established.

Copyright: Outspoken Delivery



Source: CycleLogistics photo database

It is the season...

- Christmas last year, the London-based Carry Me Bikes, a social enterprise which helps families, businesses, etc. move their cargo by bike and gives them the opportunity to test out a cargo bike, offered a Secret Cycling Santa Service. Indeed, a pedal-powered Santa brought children their presents.
- If you would like to see many Santas on a bike, than you need to go to Romania.
 Following an annual tradition, about 300 people dressed like Santa will distribute candy to children during a yearly Christmas cycling event.
- Last but not least, the BAMBINI Christmas Bike book, which is available in 11 languages, describes how Santa managed to deliver all his presents some time ago, when Rudolf was sick.

Want some more?

Stay tuned for recent news on cycle logistics via the CycleLogistic website. And if you are still not convinced about the power of bicylces, take a look at this video.

Upcoming events

- FIETSVAK 2013 (big fair on bicycles) 20-22 January 2013 – Amsterdam, the Netherlands http://www.fietsvak.nl/Pages/English.aspx
- ECOMM 2013 the yearly European Conference on Mobility Management 29. - 31. May in Gävle, Sweden Info on the call for papers here – deadline for submission 10. December Conference website: http://ecomm2013.eu/ Please note: Gävle is very well accessible, it is just one hour by train from Stockholm airport!
- VELO-CITY (with events related to cycle logistics) 11-14 December 2013 – Vienna, Austria http://www.velo-city2013.com/

For more events, please visit the **<u>EPOMM Calendar</u>**.











EUROPEAN CYCLISTS' FEDERATION

FACTSHEET Cycling Logistics: the Future of Goods Delivery

THE ADVANTAGE OF USING CYCLES TO DELIVER GOODS

It's cheaper: In April 2012, Outspoken a Cambridge (UK) delivery company delivered 17,000 magazines to 430 locations in 2 days. It only cost 800 pounds to do this, undercutting all its motorized competitors.

It's reliable. Delivering goods by cycle is great for the environment, but that's not really why the big names are signing up. Companies such as TNT, KMPG, Ernst and Young, Phillips, Fed-EX have already started integrating cycle companies into the delivery chain because it's reliable.

It fits with the latest trend in E-Commerce. By 2014, E-Commerce will increase by 90%. Retail giant, FNAC, says average package size for internet orders is about 500 grams. This makes cycles the perfect solution for last mile delivery.





BICYCLES CAN DO IT

Outspoken couriers in Cambridge (UK) ride at
 14,4km/h on average where as the average car speed is 18km/h in European cities.

35% of all urban goods could actually be delivered by bicycles. This figure actually rises to 50% when talking about light goods.

The French company, La Petite Reine moves over one million packages annually with 60 cargo bicycles all over France, in big cities like Lyon, Bordeaux or Paris. And individual bicycles used by delivery companies can actually carry a payload of more than 250 kg carrying anything from refrigerated goods to test tubes.

WE WANT CITIES FOR PEOPLE

Congestion is already hurting our economies: It wastes 3% GDP in all OECD countries. Passenger mobility is foreseen to increase by 300-400% (i). This means there will be a huge conflict for urban space. This also means that delivery fleets will be competing with passenger transport for access to road infrastructure and parking(ii).

Trucks are not fitted for cities and governments are increasingly banning them from city centers.

In Amsterdam (NL), Nuremburg (DE) and Zermatt (CH), use 'eco-zoning' where only low-emission vehicles can enter certain areas.

Milan (IT), London (UK) and Stockholm (SE) have all implemented congestion charges whereby motorized vehicles must pay to access city centers.

The European Commission has called to ban all conventionally fuelled vehicles from city centers by 2050.

Trucks are the biggest cyclists threats: Trucks make up 3% of EU road traffic, yet they are responsible for 14% of fatal collisions (iv). In London alone, half of all cyclist fatalities are caused by trucks(iii)



BICYCLE ARE COST EFFICIENT

Trucks and vans are expensive to buy, to maintain and to operate whereas cargo cycles are cheap. Additional costs such as parking fines or congestion charges are not paid by bicycles. In Canada for example, in 2006 alone, three major express delivery companies (FedEx, United Parcel Service and Purolator) were awarded 34,000 parking tickets amounting to approximately \$1.5 million in



Further reading Cyclelogistics project www.cyclelogistics.eu

Sources

- i- ITF Outlook, 2011 tinyurl.com/4x5t7re
- ii ITF Delivering the Goods tinyurl.com/7pvuqap
- iii **Transport for London** tinyurl.com/7a5uzf5
- iv European Commission Care Database, 2010
- v **Canadian Courier** tinyurl.com/bm4rblq

About ECF

With over 70 members across nearly 40 countries, the European Cyclists' Federation (ECF) unites cyclists' associations from across the globe, giving them a voice on the international level. Our aim is to get more people cycling more often by influencing policy in favour of cycling within political, economic, and social institutions.

ECF gratefully acknoledges financial support from the European Commission.











Running from May 2011 - 2014 across the EU, CycleLogistics will achieve a concrete reduction in energy used for urban freight transport. Final delivery of goods by bicycle, adopting expert know-how from existing cycle logistic companies, and inciting policy interventions across Europe are all key factors in the project.

Cycle*logistics*

moving Europe forward



Cycle*Logistics* reduces energy used in urban freight transport, by replacing unnecessary motorised vehicles with bicycles for goods transport in European city centers.

In the area of **private logistics**, individuals will be informed how to use their bicycle to transport goods, usually moved by car, and shops will be encouraged to promote this practice.

Businesses will be motivated to use cargo bikes, following well-documented examples from abroad. The **goods delivery** sector will be encouraged to increase deliveries by cycle.

Towns & cities can replace unneeded motor vehicles and use (cargo) bikes to provide **municipal services** (e.g. street cleaning, park maintenance and cycle oriented service contracts). Motor vehicle access can be restricted in city zones, but not cycle deliveries.

CycleLogistics will:

Save 1300 tons of fuel and 3500 t/CO_2

2000 new cargo bikes in use in European urban areas

See at least 10.000 trips shifted to intermodal transport chains (rail – bike)

Move cycle logistics from a niche market to a widely accepted alternative for urban goods transport



we see huge potential to shift these trips from motorised vehicles to bicycle related solutions.





PARTNERS: Austrian Mobility Research • Outspoken Delivery • City of Ferrara, IT • City of Alba-Iulia, RO • IBC Cycling Consultancy, NL • Energy Agency of Plovdiv, BG • Cycle Chic | Copenhagenize • Cyclist's Touring Club • European Cyclists' Federation

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Background

The **current transport of goods** in urban environments is almost to 100% based on **vehicles with combustion engines** and light goods are often transported by heavy vehicles for short distances.

Some problems caused by the current transport situation:

- High maintenance costs for inner city roads
- Delivery lorries in narrow roads
- Inadequate vehicles in sensitive inner city areas (pedestrian zones, street cafes....)
- Pollution and noise





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Potential for Cycle Logistics

Type of trip / trip purpose	Share of urban trips	Potential for CYCLE <i>Logistics</i>
Business transport	8%	3%
Shopping transport	24%	10%
Leisure time transport	27%	4%
Commuter transport	26%	3%
Total passenger transport	85%	20%
Heavy goods transport (>3.5 t)	5%	0%
Light goods transport (<3.5 t - estate)	5%	1%
Very light goods transport (estate car)	5%	4%
Total freight/goods transport	15%	5%
Total	100%	25%

Source: Baseline study on CYCLELogistics 2011



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COPENHAGENIZE...

	Copenhagen	Graz
Number of Citizens	530.000	260.000
Cars per 1000 capita	320	470
Share of bicycle trips Home to work	36%	20%
Number of cargo bikes	~ 25.000	~ 30



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Lots of potential for shopping by bike



moving Europe forward

Objectives and Main steps

- ✤ Making the transport sector aware of the topic
- Shifting car trips with the purpose of transporting various goods to the bicycle
- Motivate urban delivery service companies to integrate cargo bikes into their fleets
- Take up of cargo cycling in the transport policy of the partner cities and creating favourable framework conditions for moving goods by bicycle
- Trigger application of transport bicycles for municipal and business services
- Optimisation/improvement of framework conditions for shop by bike possibilities at supermarkets and shops
- Providing solid customer information about all areas of cycle logistics





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Strategies of implementation

- Compilation of **best practice** in Cargo Cycling (Inventory, B2B, B2C solutions,)
- Focus group meetings involving stakeholders
- Living labratories for Cycle Logistics offerig test possibilities for potential users
- "Shop by bike" programme in 15 cities
- **Consumer tests** (Cargo Bikes, trailers, equipment)
- **Trainings workshops** for the implementation of cycle logistics





Cycle Logistics Examples







Project Summary

cycle*logistics* aims to **reduce energy use** in urban freight transport by **promoting the use of bicycles** instead of motorised vehicles for the movement of goods. The project will focus on the inner areas of EU cities .

Following areas will be approached:

- Delivery transport
- Municipal services related to the transport of goods
- Business trips related to the transport of goods
- Private trips related to the transport of goods

Participants coming from **eight countries** work on the project. Including the advisory board and subcontracts, 17 countries are involved

Main results expected:

- less energy consumption
- less usage of space, less noise and pollution







Partners & Contact

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Project Partners:

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- Outspoken, Cambridge, United Kingdom
- AMI Ferrara Agenzia Mobilità Impianti, Italy
- **EAP** Energy Agency of Plovdiv, Bulgaria
- **Copenhagenize**, Copenhagen, Denmark
- Alba Iulia, Rumania
- CTC UK's national cyclists' organisation, United Kingdom
- IBC Internatioal Bicycle Consultancy, Utrecht, The Netherlands

www.cyclelogistics.eu



The Cycle Messenger World Championships (CMWC13) will take place in Lausanne from July 30th to August 4th, 2013.

So that the bike messengers of the world can realize what riding in a steep city is all about, the messengers of the Lake Geneva region invite them to come and compete in Lausanne, the city where messengers have been beating the asphalt for almost 15 years. The five world championships won by Joséphine Reitzel and Raphaël Faiss have raised the city to the level of one of the bike messenger capitals. The lake-side city is feared by the bike messenger community, making a world championships on its slopes a necessity.

The Cycle Messenger World Championships will be held in Switzerland for the first time since Zurich in 1999. From July 30th until August 4th, Lausanne will welcome the bike messengers of the world to an event entirely dedicated to the bicycle. To illustrate the daily work of Lausanne bike messengers, the championships' main race will take place in the small streets of the old city, amongst the steep slopes and the cobbles. As well as the main race, there will be several other events, always on the bike (geared and fixed-gear), including a tour of the Lavaux vineyards and the Swiss Alps, plus there will be the celebrations that are inseparable from the event.

Championships are not only a time to compete, but are also an annual opportunity to meet-up with old friends. The worldwide bike messenger community spans all continents, and for more than 20 years, has re-united once per year in the great cities of the world. It has become a large family joined together by a shared passion of the bicycle and of speed. Lausanne follows cities such as Chicago, Warsaw, and Tokyo, who hosted the previous events. Through the parties and turning the pedals in anger, the messengers will relax after a year of intense work before starting another. The world of the bike messenger is an unusual and unique one; it is an idealistic, colorful, and closely-knit community in which a passion for cycling is the common thread and the driving force. The World Championships are an opportunity to discover this universe in the streets of Lausanne.

www.cmwc13.com

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