

The 9th International Conference on City Logistics, Tenerife, Canary Islands (Spain), 17-19 June 2015

CycleLogistics – moving Europe forward!

Susanne Wrighton* and Karl Reiter

Forschungsgesellschaft Mobilität- Austrian Mobility Research, Schönaugasse 8a, 8010 Graz, Austria

Abstract

The transport of goods, particularly in urban areas, contributes to a problem that most of today's cities share: they are overcrowded by motorised traffic. City administrations are aware of the fact that solutions have to be found. The Cyclelogistics (2011-2014) and Cyclelogistics Ahead (2014-2017) projects (www.cyclelogistics.eu) offer a possible solution. They demonstrate the great potential for the reduction in energy consumption and pollutants caused by urban goods transport by shifting intra-urban final delivery of goods from the car to the bicycle.

© 2016 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Peer-review under responsibility of the organising committee of the 9th International Conference on City Logistics

Keywords: Cyclelogistics; urban freight transport; zero emission; sustainable city logistics; private logistics;

1. Introduction

The baseline study [1], carried out at the beginning of the first Cyclelogistics project has analysed existing transport surveys of European cities. For the calculations of the potential in the baseline study logistics was simply defined as the transport of goods from A to B, independent of the vehicle type. This includes transport services of professional carriers, freight transport by producers or traders, transport of tools as part of performing a certain service as well as private trips associated with the transport of goods (shopping, leisure, commuting) – subsummed as private logistics trips. Based on these analysis and assumptions the study came to the following conclusions described within this article.

* Corresponding author. Tel.: +43 316 810 451-21; fax: +43 316 810 451-75+0-000-000-0000 .

E-mail address: wrighton@fgm.at

2. Shift potential

In urban areas on average 51% of all motorised trips - associated with the transport of goods - could be shifted from car to the bicycle or cargo bicycle. About 1/3 of these motorised trips that could be shifted can be attributed to commercial transport, whereas private logistics (e.g. shopping and/or leisure transport) accounts for 2/3.

1,000,000	400,000	600,000	490,000
All trips	Bicycle, pedestrian, Public Transport	Motor vehicle trips	Motorised trips related to goods transport

	NUMBER OF TRIPS PER DAY	NUMBER OF TRIPS TO SHIFT TO BICYCLE & CARGOBIKE	RELATIVE % OF SHIFT WITHIN MOT. TRIPS RELATED TO GOODS
Motorised trips related to goods transport	490,000	250,000	51%
Delivery	100,000	25,000	25%
Service and business	110,000	55,000	50%
Shopping	130,000	100,000	77%
Leisure	90,000	40,000	44%
Commuter	60,000	30,000	50%

Fig. 1. How Cyclelogistics can change the traffic in an average city

By means of a virtual European city with an average of 240.000 inhabitants the Cyclelogistics study has calculated the shift potential from urban motorised transport trips to bicycles or cargo bikes. In such an average city there are about 1 million daily trips – 60% of them are motorised the rest is done by walking, cycling or PT. Taking all motorised trips as basis for the calculation (60% =100%) and only considering those motorised trips associated with the transport of goods we calculate that 51% could be potentially shifted to bicycle transport. Because these trips are related to light goods transport (more than a handbag but less than 200 kg) and the distance covered is short enough (less than 7 km) to be done by bike/cargo bike.

Of course the potential for a shift can vary quite considerably if you look at the different trip purposes. In the area of delivery the potential to shift is half of that for service and business trips, because in the area of delivery the weight, volume and even the distance are usually bigger than in the other areas. A particularly high potential exists for the area of private logistics. More than ¾ of all the shopping trips could be shifted to bike of cargo bike. The reason for this is the usually quite dense network of shops for daily supply in urban areas and the relatively light weight of the purchased goods. Leisure trips that are associated with the transport of goods we also classify as private logistics. This might e.g. include the transport of sport equipment or anything else that has to be carried along to a leisure activity. Although the trip to work or to educational institutions is considered as private logistics here.

Download English Version:

<https://daneshyari.com/en/article/1106654>

Download Persian Version:

<https://daneshyari.com/article/1106654>

[Daneshyari.com](https://daneshyari.com)