TU Dortmund University

Faculty of Spatial Planning

CARGO BIKES AS TRANSPORTATION VEHICLES FOR URBAN FREIGHT TRAFFIC

Study on European business examples to estimate the parameters and potentials for German cities

MASTER THESIS

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SYNOPSIS

Master Thesis

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Cargo bikes as transportation vehicles for urban freight traffic

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Preface

Urban freight traffic is of increasing interest for urban planning. It is a substantial part of urban traffic and therefore takes part on the negative impacts of traffic on the urban environment. Alternative transport vehicles are needed to create a low emission and efficient urban freight traffic, as desired by national development goals. This master thesis on “Cargo bikes as transportation vehicles for urban freight traffic” reveals the possibilities to use cargo bikes in urban freight traffic by reference to European business examples. Moreover it names the parameters of cargo bike use.

This is a short version of the master thesis, showing the main insights of the study. The master thesis itself is done in German.

At this point I would like to thank all contact persons, which provided me with important information on their businesses, areas of deployment or supported me by their expertise on cargo bikes.

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Thematic Background

The official statistics in Germany conceive freight traffic merely since about ten years. A spatially differentiated view is hardly possible. Nevertheless the existing statistics illustrate that the level of motorisation is very high and the car is the most used vehicle. Urban freight traffic is hardly acquirable due to its complexity and its spatially differing structures. Yet it can be shown that especially in big metropolitan regions public transport is of higher importance for private transportations. This leads to a higher amount of freight traffic. Those effects are intensified in the centre of big metropolitan regions like Hamburg, Munich or Berlin, where freight traffic can take up to more than 50 % of all traffic during daytime (London, Paris approximately more than 90 %) (cf. Kutter 2004: 19). In urban freight traffic up to 3.5 t, especially the urban retail sector, the manufacturing sector, Courier-, Express- and Postal services, craftsmanship, services and the hospitality industry are of importance. The urban retail sector is currently characterised by ongoing changes. Deliveries are increasing due to rising rental prices, which leads to the conversion of storage space to sales areas (cf. VCD 2006: 52). The centre of cities, in Logistics mostly referred to as "last mile" is becoming a special challenge for the stakeholders of urban freight traffic. „The last mile is currently regarded as one of the more expensive, least efficient and most polluting sections of the entire logistics chain. (...) The fact that a substantial proportion of home deliveries are performed by van (...) translates into higher emissions per parcel as compared to delivery by truck" (MACHARIS u. MELO 2011: 56). The high level of motorisation and the rising numbers of deliveries lead to increasing environmental problems for cities. In Germany almost 40 % of all CO_2-Emissions on the streets are related to urban traffic. The main reason for that is, that the driving cycle in the city is very irregular, therefore the fuel consumption is higher (cf. PULS 2008). The negative effects of freight traffic on urban construction, environment and traffic can be seen in every city in mostly the same form: High specific emissions by heavy trucks, illegal and obstructive parking, not observance of delivery time lines in the city centres and more (cf. Kutter 2004: 28). At the same time there are effects of the city structure on the urban freight traffic. The goal of national urban development policies in Germany is to enforce and improve the quality of the inner city structures. Therefore the inner city deliveries play an important role.

More about that in Part A of the master thesis

Cargo bikes

Already at the end of the 19th century cargo bikes played an important role in the deliveries of European cities. There is no statistical data on the current usage of cargo bikes in Europe. The research for this thesis reveals a broad range of cargo bike types. 67 models from 34 manufacturers could be detected, with only bikes looked at being capable of at least 50 kg payload and suitable for commercial use.

There are two-, three- and four-wheel cargo bikes, which differ in their design and can be cateogrised as bakery or postal bikes, low-loader and backpacker.

Bakery bikes are much alike conventional bikes. They are equipped with a larger loading area in front of the handlebar and sometimes a second loading area in the rear. They only have two wheels and mostly a small payload up to 75 kg. Single models are capable of up to 150 kg payload.

Low-Loaders are equipped with a loading area, which is located as low as possible between the front wheel and the head tube. This increases the stability of the cargo bike and higher amounts of cargo can be transported. Two-wheel low-loader can carry up to around 180 kg, three-wheel low-loader are capable of up to 500 kg.

Backpackers do almost have the same principle in design like the low-loaders, only the loading area is located in the rear, behind the driver. This leads to the advantage that transported goods cannot block the field of view of the driver. Two-wheel backpackers can load up to 200 kg, three-wheel backpackers up to 250 kg. The identified four-wheel cargo bikes are all backpackers. They are capable of up to 400 kg.

There is a brought range of different cargo bikes. Depending on the construction, the design and the used materials they differ for example in weight, payload and also driveability. Numerous cargo bikes have an optional or a standard electric assistance. Moreover there are models for two drivers. The prices of the researched cargo bikes range from ca. 700,00 € to ca. 10.000 €.

Consequently there are various possibilities for the usage of cargo bikes. Looking on the payloads and the insights on urban freight traffic they are suitable for the urban retail sector, Courier-, Express- and Postal services, catering, craftsmanship, the manufacturing sector and services of all kinds. Moreover municipal maintenance services are possible users. Inner factory traffic was not regarded in this thesis.

More about that in Part B of the master thesis

Bakery Bikes

Filibus (Kemper Fahrradtechnik, DE)
Weight: 21 kg
max. payload: 75 kg
max. total weight: 250 kg
Size loading area: L 72 x B 37 cm
Size cargo bike: L 200
Electric assistance: no
Basic price: 1.320,00 €

Low-Loader

Bullitt (Larry vs. Harry, DK)
Weight: 24-32 kg
max. payload: 180 kg
max. total weight: 210 kg
Size loading area: L 71 -78,7 x B 46,6 cm
x H 26,7-37,2 cm
Size cargo bike: L 245 x B 59 cm
Electric assistance: no
Basic price: 1.953,00 € - 2.821,00 €

Backpacker

MCS Truck (Maderna Cycle Systems, AT)
Weight: 29 kg
max. payload: 150 kg
max. total weight: 250 kg
Size loading area: L 60 x B 60 cm
Size cargo bike: L 200 x B 60 cm
Electric assistance: no
Basic price: 1.999,00 € - 2.416,00 €

Picture 1: Examples for 2-wheel cargo bikes. Source pictures and numbers: Manufacturer.

Low-Loader

Christiania (Christiania Bikes, DK)
Weight: 35 kg
max. payload: 150 kg
max. total weight: -
Size loading area: L 88 x B 62 x H 36-50 cm
Size cargo bike: L 208 x B 85 cm
Electric assistance: optional
Basic price: 1.289,00 € - 4.250,00 €

Backpacker

Cycles Maximus Cargo Trike
(Cycles Maximus, UK)
Weight: 54-85 kg
max. payload: 250 kg
max. total weight: 335 kg
Size loading area: L 123 x B 90 x H 94 cm
Size cargo bike: L 260 x B 120 cm
Electric assistance: optional
Basic price:3.070,00 € - 5.115,00 € + VAT

Cyclo Cargo (Cyclopolitain Vehicules, FR)
Weight: 129 kg
max. payload: 250 kg
max. total weight: 340 kg
Size loading area: 1,5 m³
Size cargo bike: L 265 x B 100 cm
Electric assistance: yes
Basic price: 7.000,00 €

Picture 2: Examples for 3-wheel cargo bikes. Source pictures and numbers: Manufacturer.

Backpacker

Cargo „The Van“ (Work-Bikes, DE)
Weight: 125 kg
max. payload: 250 kg
max. total weight: -
Size loading area: 1,2 m³
Size cargo bike: L 291-309 x B 120 cm
Electric assistance: optional
Basic price: 5.780,00 € zzgl. Steuer

Pick Up (Vrachtfiets, NL)
Weight: 150 kg
max. payload: 400 kg
max. total weight: -
Size loading area: L 200 x B 95 x H 40 cm
Size cargo bike: L 300-320 x B 110 cm
Electric assistance: yes
Basic price: -

Picture 3: Examples for 4-wheel cargo bikes. Source pictures and numbers: Manufacturer.

Current usage of cargo bikes in Europe

Especially in countries with extensive bicycle use, for example in Denmark or the Netherlands, a consciousness for cargo bikes can be detected. Nevertheless cargo bikes are mainly used in private. Through this study 38 businesses and project examples in Europe, that use cargo bikes for commercial reasons, were detected. They are concentrated in a small number of countries. Most of the examples could be found in Great Britain, Belgium, Austria, Spain and Germany. Looking on the locations it can be stated that the examples operate in big city (>100.000 inhabitants), with mostly only a slightly hilly topography.

Most of the companies are small businesses, with a small number of employees and a small number of cargo bikes. Moreover the cargo bike mostly is not the single transportation vehicle. Nevertheless the majority of the detected companies only use non motorised vehicles.

The CEP-Sector is the main area of deployment among the examples. Also of importance is the general transport of varying goods. As the examples show, the areas of deployment can be diverse. Among the CEP and Transport branch, the examples could be ascribed to Logistics, catering, retail, craftsmanship, municipal and other services, as well as promotion and advertisement. Most of the examples work in numerous areas. Around 45 % concentrate on one branch.

The areas of deployment show that the usage of cargo bikes covers more than CEP-Services. It exploits own sections of the urban freight traffic. The European examples draw a uniform appearance: transportation is not limited to certain types of goods; it covers, except for single legal restrictions, all type of goods; the payload ranges from 50 to 450 kg – most of the examples show a maximum payload of 100-150 kg per bike. The area of deployment is spatially limited; sole distances do mostly not exceed 20 km; in most of the cases cargo bikes are only use in a certain area, mostly the centre of a city. At the most they are used in areas, where the usage of non motorized vehicles is disadvantageous due to traffic jams, missing parking possibilities and legal restrictions.

Apart from single critical utterances, the usage of cargo bikes is evaluated very positive by the business examples. Especially its climate friendly and energy saving effects were stressed out by the companies.

More about that in Part C of the master thesis

The Parameters

The study shows that the usage of cargo bikes for urban freight traffic is affected positively and negatively by varying parameters. Those parameters can be of differing importance to the stakeholders of urban freight traffic. Moreover the stakeholders can influence those parameters in diverse ways.

Cognitive parameters: *Image and Perception of cargo bikes*. The knowledge on the possibilities and potentials of cargo bikes among the stakeholders so far is little and inhibits a comprehensive use of cargo bikes in urban freight traffic. There is no direct influence on those parameters. They are affected through promotion and information.

Structural parameters: *Bicycle friendly infrastructure, limitation of motorized traffic and economically suitable urban structure*. Those parameters differ very much spatially. A bicycle friendly environment is not a guarantee for the successful usage of cargo bikes, but it is an important starting condition.

Legal and socio-political parameters: *legal regulations on usage and manufacturing; legal and social acknowledgement as delivery vehicles.* Legal regulations often have an inhibiting effect in many European countries. There is no consistent regulation for the manufacturing and the usage of cargo bikes in Europe.

Corporate parameters: *Internal adjustment of processes*. The usage of cargo bikes requires adjustment of corporate processes due to the requirements of cargo bikes. At the same time cargo bikes are not suitable for every task. Nevertheless it can develop new areas of deployment.

Macroeconomic parameters: *Market economy presence and strength of cargo bike manufacturers*. The economic presence of cargo bike manufacturers is compared to the automobile industry marginal. A greater industrial production respectively a lobby is needed.

Technical parameters: *Design and Construction of cargo bikes*. Production according to uniform standards and prevention of cheap imports to ensure the quality of cargo bikes.

Physical parameters: *The use of cargo bikes means physical effort*. This limits the use of cargo bikes. By electric assistance this can be overcome to a certain extent.

Currently the most important parameters are the cognitive parameters. Irrespectively of the geographical context those parameters are at this point seen as extremely inhibiting. Good practice examples as well as a comprehensive acknowledgement of cargo bikes by the field of urban freight transport, is needed to overcome the concerns of stakeholders.

More about that in Part C of the master thesis

Conclusion

This master thesis on the possibilities of cargo bikes as transport vehicles for urban freight traffic proofs that throughout Europe cargo bikes are used in various ways for commercial purposes. The share in urban freight traffic is currently marginal and does not exploit existing potentials. Cargo bikes so far are only used in certain niches and by small businesses. Moreover in most of the cases low value goods are transported. Therefore a comprehensive use of cargo bikes for commercial reasons cannot be stated. Nevertheless the detected examples and the insights of this thesis reveal a distinctive potential for urban freight traffic, even for high value products. International studies confirm that.

The cargo bike is a suitable transportation vehicle for the transport of goods, especially on the last mile. The experience of the business examples indicate that the actual payload depends on the transportation purpose, the area of operation, the cargo bike type as well as the physical fitness of the driver.

A comprehensive usage that can lead to an easing of inner city areas, above all needs the action of all stakeholders of the urban freight traffic, with companies and municipalities leading the way. Moreover the cargo bike has to be acknowledged also on a national level for concepts and actions in the development of urban freight traffic.

The importance of cargo bikes in the future is linked strongly to the urban development dynamics and policies. In respect of current developments in urban freight traffic and the slow-moving shift of transportation processes to sustainable means of transportation, the usage of cargo bikes is less an alternative among others than a logical step to achieve short term and efficient positive changes in urban freight traffic.

Bibliography

Literature

ADFC [ALLGEMEINER DEUTSCHER FAHRRAD-CLUB E.V.] 2009: Ausprobiert: Lastenräder: Schwere Lasten leicht bewegt. ADFC Radwelt 4/09, S. 20-23

ALLEN, J.; THORNE, G. UND BROWNE M. 2007: BESTUFS - Good Practice Guide on Urban Freight. Abgerufen von http://www.epomm.eu/docs/1578/English_BESTUFS_Guide.pdf (last update 01.08.2007, looked up 15.02.2012)

ANDERSON, STEPHEN; ALLEN, JULIAN; BROWNE, MICHAEL 2005: Urban logistics - how can it meet policy makers sustainability objectives. Abgerufen von http://westminsterresearch. wmin.ac.uk/11/1/Anderson%252C_Allen_%2526_Browne_2005.pdf (last update 24.04.2006, looked up 30.01.2012)

ARNDT, WULF-HOLGER 2011: Wirtschaftsverkehr: Stör- und Standortfaktor in der Stadt. Vortrag beim Difu-Dialog am 14.12.2011. Berlin

ATTESLANDER, PETER 2006: Methoden der empirischen Sozialforschung. ESV basics. 11. Auflage. Berlin: Schmidt

BAG [BUNDESAMT FÜR GÜTERVERKEHR] (Hg.) 2009: Struktur der Unternehmen des gewerblichen Güterkraftverkehrs und des Werkverkehrs: Band USTAT 16; Stand: November 2009. Abgerufen von http://www.bag.bund.de/SharedDocs/Downloads/DE/Statistik/ Unternehmen/InhaltUstat_2009.pdf?__blob=publicationFile (last update 01.02.2011, looked up 18.02.2012)

BARZEL, PETER; BOLLSCHWEILER, MICHAEL; SMOLIK, CHRISTIAN 2008: Die neue Fahrradtechnik: Material, Konstruktion, Fertigung. 1. Auflage. Bielefeld: BVA

BIELING, NORBERT 1998: Analyse und Entwicklung des Wirtschaftsverkehrs am Beispiel des Ballungsraumes München: 22. Ergänzungs-Lieferung von 07.1998. In: Bracher, T. ; Haag, M. ; Holzapfel, H. ; Kiepe, F. et al: Handbuch der kommunalen Verkehrsplanung: Wichmann; Economica-Verlag

BMVBS [BUNDESMINISTERIUM FÜR VERKEHR, BAU UND STADTENTWICKLUNG] (Hg.) 2008: Masterplan Güterverkehr und Logistik. Abgerufen von http://www.bmvbs.de/cae/servlet/ contentblob/23142/publicationFile/46190/masterplan-gueterverkehr-und-logistik.pdf (last update 15.10.2008, looked up 06.11.2011)

BMVBS [BUNDESMINISTERIUM FÜR VERKEHR, BAU UND STADTENTWICKLUNG] (Hg.) 2010a: Mobilität in Deutschland 2008: Ergebnisbericht. Struktur - Aufkommen - Emmissionen - Trends. Abgerufen von http://www.mobilitaet-in-deutschland.de/pdf/MiD2008_Abschlussbericht_I.pdf (last update 26.03.2010, looked up 06.11.2011)

BMVBS [BUNDESMINISTERIUM FÜR VERKEHR, BAU UND STADTENTWICKLUNG] (Hg.) 2010b: Mobilität in Deutschland 2008: Kurzbericht. Struktur - Aufkommen - Emmissionen - Trends. Abgerufen von http://www.mobilitaet-in-deutschland.de/pdf/MiD2008_Kurzbericht_I.pdf (last update 30.03.2010, looked up 06.11.2011)

BMVBS [BUNDESMINISTERIUM FÜR VERKEHR, BAU UND STADTENTWICKLUNG] (Hg.) 2011: Weißbuch Innenstadt. Abgerufen von http://www.nationale-stadtentwicklungspolitik.de/cln_032/nn_901686/SharedDocs/Publikationen/DE/weissbuchInnenstadt,templateId=raw,property=publicationFile.pdf/weissbuchInnenstadt.pdf (last update 31.05.2011, looked up 25.04.2012)

BMVBW [BUNDESMINISTERIUM FÜR VERKEHR, BAU-UND WOHNUNGSWESEN] (Hg.) 2003a: Kraftfahrzeugverkehr in Deutschland 2002: Schlussbericht Band 1. Braunschweig.

BMVBW [BUNDESMINISTERIUM FÜR VERKEHR, BAU-UND WOHNUNGSWESEN] (Hg.) 2003 b: Kraftfahrzeugverkehr in Deutschland - KiD 2002: Kurzbericht. Abgerufen von http://daten.clearingstelle-verkehr.de/194/02/kid2002_-_kurzbericht.pdf (last update 04.12.2003, looked up 20.02.2012)

BMVBW [BUNDESMINISTERIUM FÜR VERKEHR, BAU-UND WOHNUNGSWESEN] (Hg.) 2005: Nationaler Radverkehrsplan 2002-2012: FahrRad! Maßnahmen zur Förderung des Radverkehrs in Deutschland. Berlin, Köln

BOGNER, ALEXANDER 2009: Experteninterviews: Theorien, Methoden, Anwendungsfelder. 3. Auflage. Wiesbaden: VS Verl. für Sozialwiss

BRACHER, TILMAN 1995: Fahrradnutzung im Wirtschaftsverkehr: 9. Ergänzungs-Lieferung von 02.1995. In: Bracher, Haag et al: Handbuch der kommunalen Verkehrsplanung: Wichmann; Economica-Verlag

BRACHER, TILMAN; LEHMBROCK, MICHAEL 2008: Steuerung des städtischen Kfz-Verkehrs: Parkraummanagement, City-Maut und Umweltzonen, Nr. Bd. 6/2008. Berlin: Deutsches Institut für Urbanistik (Difu)

CLAUSEN, UWE (Hg.) 2011: Wirtschaftsverkehr 2011: Modelle - Strategien - Nachhaltigkeit. Dortmund: Verl. Praxiswissen

COSSU, PAOLA 2012: C-LIEGE city, project and partner fact-sheet. Abgerufen von http://www.c-liege.eu/fileadmin/Media/c-liege.eu/Downloads/C-LIEGE_City_Partner_Fact_Sheet.pdf (looked up 19.05.2012)

DABLANC, LAETITIA 2007: Goods transport in large European cities: Difficult to organize, difficult to modernize. Abgerufen von http://www.vratza.bg/userfiles/file/obs/Proekti/SHUGAR/INRETS_Article%20Transportation%20Research%20Part%20A.pdf (looked up 30.01.2012)

DESTATIS [STATISTISCHES BUNDESAMT] (Hg.) 2006: Im Blickpunkt - Verkehr in Deutschland 2006. Abgerufen von http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/Internet/DE/Content/Publikationen/Fachveroeffentlichungen/Verkehr/Querschnitt/VerkehrinDeutschlandBlickpunkt1021216069004,property=file.pdf (last update 14.09.2006, looked up 06.11.2011)

DESTATIS [STATISTISCHES BUNDESAMT] (Hg.) 2007: Wirtschaft und Statistik. Abgerufen von https://www.destatis.de/DE/Publikationen/WirtschaftStatistik/Verkehr/UnternehmenTransportbereich2005.pdf?__blob=publicationFile (last update 31.08.2007, looked up 18.02.2012)

DESTATIS [STATISTISCHES BUNDESAMT] (Hg.) 2011a: Statistisches Jahrbuch 2011 für die Bundesrepublik Deutschland mit "Internationalen Übersichten". Abgerufen von http://www.destatis.de/jetspeed/portal/cms/Sites/destatis/SharedContent/Oeffentlich/B3/Publikation/Jahrbuch/StatistischesJahrbuch,property=file.pdf (last update 22.08.2011, looked up 19.02.2012)

DODGE, PRYOR 2011: Faszination Fahrrad: Geschichte - Technik - Entwicklung. Bielefeld: Delius Klasing

DIW [DEUTSCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG] (Hg.) 2011/2012: Verkehr in Zahlen. Hamburg: DVV Media Group

EUROPÄISCHE KOMMISSION 2011: Weißbuch: Fahrplan zu einem einheitlichen europäischen Verkehrsraum - Hin zu einem wettbewerbsorientierten und ressourcenschonenden Verkehrssystem. Abgerufen von http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0144:FIN:DE:PDF (last update 28.03.2011, looked up 23.02.2012)

EU [EUROPÄISCHE UNION] 2010a: Illustrated Glossary for Transport Statistics: 4th edition. Abgerufen von http://www.eds-destatis.de/downloads/publ/KS-RA-10-028-EN-N.pdf (last update 07.07.2009, looked up 19.02.2012)

EU [EUROPÄISCHE UNION] 2010b: EU energy and transport in figures: Statistical Pocketbook 2010. Abgerufen von http://ec.europa.eu/energy/publications/doc/2010_energy_transport_figures.pdf (last update 18.05.2010, looked up 11.05.2012)

EU [EUROPÄISCHE UNION] 2011: Interinstitutionellen Regeln für Veröffentlichungen. Brüssel, Luxembourg: Amt für Veröffentlichungen der Europäischen Union

FELDKÖTTER, MICHAEL 2003: Das Fahrrad als städtisches Verkehrsmittel: Untersuchungen zur Fahrradnutzung in Düsseldorf und Bonn ; mit 37 Tabellen. Studien zur Mobilitäts- und Verkehrsforschung, Bd. 6. Mannheim: Verl. MetaGIS-Infosysteme

FIETSBERAAD 2009: Fietsberaad factsheet 1: Importance of cycling in the Netherlands. Abgerufen von http://www.fietsberaad.nl/library/repository/bestanden/Fietsberaadfactsheet%201%20-%20EngBetekenis%20van%20de%20fiets%20in%20Nederland%20[definitief%20oktober%20versie%203].doc (last update 16.10.2009, looked up 26.04.2012)

FIETSBERAAD 2010: Bicycle policies of the European principals: continuous and integral. Abgerufen von http://www.fietsberaad.nl/library/repository/bestanden/Fietsberaad_publicatie7_Engels.pdf (last update 12.01.2010, looked up 05.12.2011)

FLÄMIG, HEIKE; HERTEL, CHRISTOF 2006: Wirtschaftsverkehr in Ballungsräumen. Direkt, Bd. 62. Bremerhaven: Wirtschaftsverl. NW Verl. für Neue Wiss

FRANKE, JUTTA 1987: Illustrierte Fahrradgeschichte. Berlin: Museum für Verkehr und Technik Berlin

GATHER, MATTHIAS; KAGERMEIER, ANDREAS; LANZENDORF, MARTIN 2008: Geographische Mobilitäts- und Verkehrsforschung. Studienbücher der Geographie. Berlin: Borntraeger

GIES, JÜRGEN 2011: Nachhaltige Mobilität - Kommunen trauen sich was: Dokumentation der Fachtagung "kommunal mobil" am 24./25. Januar 2011 in Dessau-Roßlau. Difu-Impulse, Bd. 5/2011. Berlin: Dt. Inst. f. Urbanistik

HDE [HANDELSVERBAND DEUTSCHLAND] 2012: Der deutsche Einzelhandel: Zahlen und Fakten. Abgerufen von http://www.einzelhandel.de/pb/site/hde/get/params_Dattachment/1243/4441/9305/1490267/1213374/1213375/1405184/Der%20deutsche%20Einzelhandel.pdf (last update 23.02.2012, looked up 02.03.2012)

HEIGL, FRANZ 2008: Die Geschichte der Stadt: Von der Antike bis ins 20. Jahrhundert. Graz: Akademisch Druck- und Verlagsanstalt

HEINEBERG, HEINZ 2006: Stadtgeographie. Grundriss allgemeine Geographie, Bd. 2166. 3. Auflage. Paderborn: Schöningh

ILS NRW [INSTITUT FÜR LANDES- UND STADTENTWICKLUNGSFORSCHUNG UND BAUWESEN DES LANDES NORDRHEIN-WESTFALEN] 2007: Nachhaltige Verkehrspolitik - Akteure und Prozesse: Ein Leitfaden. ILS NRW Schriften 206. Dortmund

KBA [KRAFFAHRT-BUNDESAMT] 2011: Güterbeförderung deutscher Lastkraftfahrzeuge im Jahr 2010. Abgerufen von http://www.kba.de/cln_031/nn_125316/DE/Statistik/Kraftverkehr/deutscherLastkraftfahrzeuge/Gueterbefoerderung/2010__vd4__kurzbericht__pdf,templateId=raw,property=publicationFile.pdf/2010_vd4_kurzbericht_pdf.pdf (last update 08.08.2011, looked up 18.02.2012)

Kba [Kraffahrt-Bundesamt] 2012: Methodische Erläuterungen Fahrzeugzulassugen. Abgerufen von http://www.kba.de/cln_033/nn_523876/DE/Statistik/Fahrzeuge/fz__methodische__erlaueterungen__201201__pdf,templateId=raw,property=publicationFile.pdf/fz_methodische_erlaueterungen_201201_pdf.pdf (last update 18.01.2012, looked up 18.04.2012)

KUTTER, ECKHARD (Hg.) 2004: Wirtschaftsverkehr in Städten - Wege aus der Krise: Kolloquium. Als Ms. gedr. Bergisch Gladbach: DVWG

Leerkamp, Bert 2004: Probleme des Wirtschaftsverkehrs aus Sicht der städtischen Planung. In: Kutter, Eckhard 2004: Wirtschaftsverkehr in Städten - Wege aus der Krise: Kolloquium. Bergisch Gladbach: DVWG, 24–36

LEHMBROCK, MICHAEL; SPOTT, MERJA; BECKMANN, KLAUS J. 2007: Nachhaltiger Stadtverkehr und benachteiligte Stadtquartiere: Gute Praxisbeispiele in Europa. Abgerufen von http://www.bmvbs.de/cae/servlet/contentblob/31254/publicationFile/503/nachhaltiger-stadtverkehr-und-benachteiligte-stadtquartiere-gute-praxisbeispiele-in-europa.pdf (last update 17.04.2007, zuletzt geprüft 11.12.2011)

LÖW, MARTINA; STEETS, SILKE; STOETZER, SERGEJ 2008: Einführung in die Stadt- und Raumsoziologie. UTB, Bd. 8348. 2. Auflage. Opladen: Budrich

MACHARIS, CATHY; MELO, SANDRA 2011: City distribution and urban freight transport: Multiple perspectives. Nectar series on transportation and communications networks research. Cheltenham: Elgar

MAES, JOCHEN; SYS, CHRISTA; VANELSLANDER, THIERRY 2011: Kunnen fietskoeriers een rol spelen in de Vlaamse logistieke sector?: Beleidspaper. Wettelijk depotnummer: D/2011/11.528/2. Abgerufen von http://www.flanderslogistics.be/fietskoeriers/beleidspaper.pdf (last update 19.10.2011, looked up 17.04.2012)

MAIWALD, THERESA 2010: Radverkehrsförderung in topographisch bewegten Räumen. Diplomarbeit. Fakultät Raumplanung TU Dortmund

MEHLHORN, GERHARD 2001: Der Ingenieurbau: Verkehr. Straße, Schiene, Luft. Berlin: Ernst & Sohn Verlag für Architektur und technische Wissenschaften GmbH

MERKI, CHRISTOPH MARIA 2008: Verkehrsgeschichte und Mobilität. UTB, Bd. 3025. Stuttgart: Ulmer

MÜHLBACHER, STEPHANIE 2010: Bicycle Logistic: Potential für Fahrradlieferverkehr in Graz. Nicht veröffentlichte Diplomarbeit. FH Johanneum Kapfenberg

PETTINGA, ANDRÉ 2005: Learning form the Dutch Laboratory. Abgerufen von http://www.fietsberaad.nl/library/repository/bestanden/Learning_from_the_Dutch.pdf (last update 26.05.2005, looked up 26.04.2012)

PULS, THOMAS 2008: Stadtverkehr im Fokus: Ist eine City-Maut die Lösung der Stauprobleme? IW-Analysen, Bd. 37. Köln: Dt. Inst.-Verl

RAUCK, MAX J. B; VOLKE, GERD; PATURI, FELIX R 1979: Mit dem Rad durch zwei Jahrhunderte: Das Fahrrad und seine Geschichte. 2. Auflage. Aarau: AT-Verlag

RETZKO, HANS-GEORG 2005: Verkehrsplanung. In: Schulte, Karl-Werner (Hg.) 2005: Immobilienökonomie: Stadtplanerische Grundlagen. München: Oldenbourg Wissenschaftsverlag GmbH, 205–232

SCHNABEL, WERNER; LOHSE, DIETER 1997: Grundlagen der Straßenverkehrstechnik und der Verkehrsplanung: Band 1. 2., neu bearbeitete Auflage. Berlin: Verlag für Bauwesen GmbH

SCHNABEL, WERNER; LOHSE, DIETER 2011a: Grundlagen der Straßenverkehrstechnik und der Verkehrsplanung: Band 1. 3., vollständig überarbeitete Auflage. Berlin; Wien; Zürich: Beuth Verlag GmbH

SCHNABEL, WERNER; LOHSE, DIETER 2011b: Grundlagen der Straßenverkehrstechnik und der Verkehrsplanung: Band 2. 3., vollständig überarbeitete Auflage. Berlin; Wien; Zürich: Beuth Verlag GmbH

SHARP, ARCHIBALD 1896: Bicycles & tricycles. An elementary treatise on their design and construction: With examples and tables By Archibald Sharp . With numerous illustrations. [London], New York, Bombay: Longmans, Green, and Co. London, New York, and Bombay

STEIERWALD, GERD; KÜNNE, HANS DIETER; VOGT, WALTER (Hg.) 2005: Stadtverkehrsplanung: Grundlagen, Methoden, Ziele. 2. Auflage. Berlin: Springer

STÖLZLE, WOLFGANG 2010: Güterverkehr kompakt. Lehrbuch kompakt. München: Oldenbourg

TFL [TRANSPORT FOR LONDON] 2009: Cycle Freight in London: A Scoping Study. Abgerufen von http://www.tfl.gov.uk/assets/downloads/businessandpartners/cycle-as-freight-may-2009.pdf (last update 11.05.2009, looked up 17.04.2012)

TRUNK, GREGOR 2010: Gesamtwirtschaftlicher Vergleich von Pkw- und Radverkehr - Ein Beitrag zur Nachhaltigkeitsdiskussion. Abgerufen von https://zidapps.boku.ac.at/abstracts/download.php?dataset_id=8320&property_id=107&role_id=NONE (looked up 23.02.2012)

TULLY, CLAUS J; BAIER, DIRK 2006: Mobiler Alltag: Mobilität zwischen Option und Zwang \u2014 Vom Zusammenspiel biographischer Motive und sozialer Vorgaben. Wiesbaden: VS Verlag für Sozialwissenschaften | GWV Fachverlage GmbH Wiesbaden

UBA [UMWELTBUNDESAMT] 2004: Hintergrundpapier zu Umwelt und Verkehr: Mobilität Nachhaltig gestalten. Abgerufen von http://www.umweltdaten.de/uba-info-presse/hintergrund/UGR-Hintergrundpapier.pdf (last update 01.11.2004, looked up 30.01.2012)

UBA [UMWELTBUNDESAMT] 2009 a: Feinstaubbelastung in Deutschland. Abgerufen von http://www.umweltdaten.de/publikationen/fpdf-l/3565.pdf (looked up 24.04.2012)

UBA [UMWELTBUNDESAMT] 2009 b: Strategie für einen nachhaltigen Güterverkehr. Abgerufen von http://www.umweltdaten.de/publikationen/fpdf-l/3857.pdf (looked up 25.04.2012)

UBA [UMWELTBUNDESAMT] 2010: CO_2-Emissionsminderung im Verkehr in Deutschland - Mögliche Maßnahmen und ihre Minderungspotenziale. Abgerufen von http://www.umweltdaten.de/publikationen/fpdf-l/3773.pdf (last update 03.02.2010, looked up 13.11.2011)

UBA [UMWELTBUNDESAMT] 2011: Lärmbilanz 2010: Untersuchung der Entscheidungskriterien für festzulegende Lärmminderungsmaßnahmen in Lärmaktionsplänen nach der Umgebungslärmrichtlinie 2002/49/EG. Abgerufen von http://www.umweltdaten.de/publikationen/fpdf-l/4203.pdf (looked up 25.04.2012)

VCD [VERKEHRSCLUB DEUTSCHLAND E.V.] (Hg.) 2006: Leitfaden städtischer Güterverkehr. Online verfügbar unter http://www.vcd.org/index.php?eID=tx_nawsecuredl&u=0&file=fileadmin/user_upload/redakteure_2010/themen/gueterverkehr/Staedtischer_Gueterverkehr/VCD-Leitfaden_Gueterverkehr.pdf&t=1320679900&hash=20d0165597864c58d243244e4dce71fb7259e34f (last update 12.09.2006, looked up 06.11.2011).

WILLEKE, RAINER 1992: Wirtschaftsverkehr in Städten. Schriftenreihe des Verbandes der Automobilindustrie (VDA), Bd. 70. Frankfurt am Main: VDA

WMR [WIRTSCHAFTSFÖRDERUNG METROPOLERUHR GMBH] (Hg.) 2012: Mobilität Ruhr. Ergebnisse im Überblick: 4. Verkehrsfachtagung, 1. Dezember 2011. Mülheim an der Ruhr

WITTE, CLAUDIA; KRICHEL, PETER; SOMMER, CARSTEN 2011: Verlagerung des Lieferverkehrs auf Fahrradkuriere: Methode und Ergebnisse einer Potenzialstudie. In: Clausen, Uwe 2011: Wirtschaftsverkehr 2011: Modelle - Strategien - Nachhaltigkeit. Dortmund: Verl. Praxiswissen, 157–170

A2 Types of cargo bikes

Country	Manufacturer	Name	Number of Wheels	Weight in kg	max. payload in kg	max. total weight in kg	Size loading area / box / loading volume	Position (main) loading area	Size cargo bike	Frame material	Size Wheels	No. Models	Electric assistance	Basic price	Contact	Special	Example
DE	Kemper Fahrradtechnik	***Green Elephant***	2	26	50	230	L 60 x B 44 cm	front	190 cm	steel	front 20" back 26"	1	no	1.120,00 €	www.kemper-velo.de		
DE	Wulfhorst	***Provence***	2	50	50	-	L 51 x B 42 cm	front	-	steel	front 20" back 26"	1	no	909,00 € + VAT	www.wulfhorst.de		
IT	El Ciclo	***Allungata***	2	23	50	165 (ca.)	L 70 x B 18 cm	back	200 cm x 59 cm	steel	26"	1	yes	2.040,00 €	www.elciclo.it		
IT	El Ciclo	***Transporter***	2	23	50	180 (ca.)	L 70 x B 18 cm (back) L 30 x B 34 (front)	front/back	193 cm x 60 cm	steel / aluminium	front 20" back 26"	1	yes	2.060,00 €	www.elciclo.it		
DE	Speedliner-Mobility	***Speedbike AL (AL20, AL20/26, AL24/26, AL26)***	2	-	70	-	-	front	-	aluminium/ steel	20" 20"/26" 24"/26" 26"	4	optional	-	www.speedliner-mobility.de		
DE	Kemper Fahrradtechnik	***Filibus***	2	21	75	250	L 72 x B 37 cm	front	200 cm	steel	front 20" back 26"	1	no	1.320,00 €	www.kemper-velo.de		
DK	Christiania Bikes	***Christiania 2-Wheeler***	2	28	75	-	-	front	252 cm x 58 cm	aluminium / steel	front 20" back 24"	1	no	1.620,00 €	www.christianiabikes.com		
NL	Bakfiets	***Cargo Bike***	2	41	75	200	L 43 - 72 x B 45 - 63 x H ca. 40 cm	front	225 - 255 cm x ca. 63 cm	steel	front 20" back 26"	4	optional	1.509,00 € - 2.928,00 €	www.bakfiets.nl/eng/		
NL	Bakfiets	***Cargo Light***	2	37	75	200	L 42 x B 66 x H 26 cm	front	-	steel	24"	1	no	679,00 €	http://bakfiets.nl/eng/		
DE	Kemper Fahrradtechnik	***Filibus Plus***	2	32	80	260	L 70 x B 50 cm	front	203 cm x ca. 50 cm	steel	front 20" back 26"	1	no	1.790,00 €	www.kemper-velo.de		
IT	El Ciclo	***Carriola***	2	ca. 35	80	200 (ca.)	L 70 x B 62 x H 70 cm	front	255 cm x 70 cm	steel	front 20" back 26"	1	yes	2.650,00 €	www.elciclo.it		
NL	De Fietsfabriek	***Filibus***	2	30	80	-	L 73 x B 42 x H 32 cm	front	210 cm x 50 cm	steel	-	1	optional	1.295,00 €	www.defietsfabriek.nl		
DK	Esimex Cycler	***Long John***	2	40	100	-	L 60 x B 60 cm	front	-	-	front 20" back 23"	-	-	-	www.esimex.dk		
NL	Workcycles	***Delivery bicycle***	2	-	100	-	4 Euroboxes	front	-	steel	front 20" back 26"	1	no	2.699,00 €	www.workcycles.com		
UK	8 Freight	***8 Freight***	2	20	100	200 (ca.)	L 70 x B 53 cm	back	200 cm x 58 cm	aluminium	20"	1	no	ca. 1.790,00 €	www.8freight.co.uk		
DE	BERNDS	***PackBERNDS***	2	19,4 (min.)	130	260 kg	Basket: L 37 - 78 cm x B 66 - 70 cm x H 45cm Box: L 37 - 76 cm x B 60 - 70 cm x	front	219 cm x 70 cm (max) Folding size: 175x100x70 cm	steel	20"	1	optional	2.350,00 € - 3.900,00 €	www.bernds.de	folding bike	

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AT	Maderna Cycles Systems	***MCS Truck***	2	29	150	250	L 60 x B 60 cm	back	200 cm x 60 cm	steel	26"	1	no	1.999,00 € - 2.416,00 €	www.mcsbike.com www.heavypedals.at		
NL	Workcycles	***Fr8***	2	-	150	250	L 40 x B 60 cm	front	-	Chro-Moly	-	2	no	649,00 € - 1.149,00 €	www.workcycles.com		
DE	Gobax Bikes	***G1, G-et-1 S, G-et-1 pro***	2	19,5 - ca. 27 kg	180	200	L 60 x B 70 cm (Eurobox)	back	200 cm (ca.) x 68 cm	aluminium	24"	4	yes	1.569,00 € - ca. 4.200,00 €	www.gobax-bikes.de		
DK	Larry vs Harry	***Bullitt***	2	24 - 32	180	210	L 71 - 78,7 x B 46,6 cm x H 26,7 - 37,2 cm	front	245 cm x 59 cm	aluminium	front 20" back 26"	13	no	1.953,00 € - ca. 2.821,00 €	www.larryvsharry.com		
DE	Velonom Transporter	***Prana***	2	25 (min.)	200	300	L 81 x B 18 cm (back) L 43,5 x B 61 x H 29 cm (front)	back	210 cm x 60 cm	steel	26"	3	optional	779,00 € - 1.199,00 €	www.cargobike.info		
BE	Achielle	***longAchielle***	2	-	-	-	L 58 x B 44 x H 40 cm (bottom) L 80 x B 65 cm (top)	front	-	-	front 20" back 26"	2		1.399,00 €	www.achielle.be		
DE	Pedalpower	***Long Harry***	2	27	-	-	L 80 x B 60 cm	front	-	aluminium or steel	front 20" back 26"	18	optional	1.499,00 € - 3.909,00 €	www.pedalpower.de		
UK	Pashley	***Courier***	2	-	-	-	-	front	-	-	-	-	-	-	www.pashley.co.uk		
DE	Wulfhorst	***Pick Up***	3	35	70	-	L 50 x B 34 cm (back) L 37 x B 35 cm (front)	front/back	176 cm x 75 cm	steel	24 " or 26"	1	optional	2.088,00 € + VAT	www.wulfhorst.de		
NL	Bakfiets	***Cargo Trike***	3	51	75	200	L 90 x B 53 - 70 x H 44 - 54 cm	front	220 cm x 82 cm	steel	front 20" back 26"	2	optional	1.759,00 € - 1.979,00 €	www.bakfiets.nl/eng/		
FI	Helkama	***Trans 2000***	3	32	80	-	L 75 x B 55 x H 40 cm	front	200 cm x 89 cm	aluminium	-	1	no	ca. 1.600,00 €*	www.helkamapro.com		
DE	Pedalpower	***Berliner Lastenrad***	3	35	100	-	L 96 x B 67 x H 60 cm	front	-	steel	26"	1	-	1.499,00€	www.pedalpower.de		
DK	Bella Bikes	***Bella Standard Cargo Bike***	3	40	100	-	L 95 x B 63 x H 38 - 54,5 cm	front	218,5 cm x 87,0 cm	aluminium	20"	2	no	ca. 1.600,00 €	www.bellabike.dk		
DK	Esimex Cycler	***Buggy***	3	-	100	-	L 78 x B 78 cm	front	-	-	-	-	-	-	www.esimex.dk		
DK	Esimex Cycler	***Joker Lifestyle***	3	45	100	-	L 50 x B 63 cm	front	-	-	-	-	-	-	www.esimex.dk		
SE	Cargobike AB	***Cargobike DeLuxe***	3	53	100	-	L 87 x B 59 x H 50 - 59 cm	front	210 cm x 86 cm	steel and plumbago	front 20" back 26"	3	optional	ca. 1.127,00 € - ca. 1.700,00 €	www.cargobike.se		
SE	Cargobike AB	***Classic Cargobike***	3	50	100	-	L 91,5 x B 61,5 x H 49,5 cm	front	210 cm x 86 cm	steel and plumbago	front 20" back 24"	1	no	ca. 1.130,00 €	www.cargobike.se		

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DK	Nihola	***Nihola***	3	32	120	220	L 88 x B 62 x H 50 cm or L 100 x B 84 cm depending on model	front	180 - 215 cm x 89 cm / 99 cm	steel	front 20" back 26"	7	no	ca. 1.800,00 €*	www.nihola.com		
DE	Manufaktur Spezialräder H.Stam	***KeyOny***	3	150 (ca.)	125	375	L 85 x B 85 cm	back	275 cm x 120 cm	steel	front 24" back 23"	1	yes	6.000,00 € (ca.)	www.liegeraeder.de	2 drivers	
DE	die Fahrradwerkstatt	***gustav w. Transportmobile Traffic***	3	26 (min.)	150	280	L 110 x B 60 x H 30 cm	front	215 cm x 99 cm	steel	front 16" back 20" or front 20" back 26"	3	optional	2.860,00 € - 5.250,00 €	www.die-fahrradwerkstatt.de		
DE	Wulfhorst	***Classic***	3	47	150	-	L 100 x B 60 cm	front	235 cm x 90 cm	steel	26"	1	optional	1.689,00 € + VAT	www.wulfhorst.de		
DE	Wulfhorst	***Comfort***	3	50	150	-	L 80 x B 60 x H 25 cm	front	295 cm 85 cm	steel	26"	1	no	2.495,00 € + VAT	www.wulfhorst.de		
DE	Wulfhorst	***Meiler***	3	68	150	-	L 140 cm x B 80 x H 42 cm	front	271 cm x 118 cm	steel	26"	1	no	2.529,00 € + VAT	www.wulfhorst.de		
DE	Wulfhorst	***Trans-Racer***	3	50	150	-	L 72 x B 60 x H 2 cm	front	195 cm x 87 cm	steel	front 20" back 26"	1	no	2.619,00 € + VAT	www.wulfhorst.de		
DE	Wulfhorst	***Zyklon***	3	50	150	-	L 71 x B 60 x H 25 cm	back	211 cm x 81 cm	steel	26"	1	optional	2.263,00 € + VAT	www.wulfhorst.de		
DK	Christiania Bikes	***Christiania***	3	35	150	-	L 88 x B 62 cm x H 36 - 50 cm or: H 22 - 36 cm or P-Box: H 60 cm	front	208 cm x 85 cm	steel	at buyers option	9	optional (bike 26)	1.289,00 € - 4.250,00 €	www.christianiabikes.com		
DK	Sortejernhest	***Jernhesten***	3	38	150	-	L 95 x B 65 cm	front	58 x 200	steel	20"	1	optional	ca. 1.750,00 €	www.sortejernhest.dk		
FR	Urban Cab	***Urban Cab Jumbo***	3	120	150	-	1,5 m³	back	300 cm x 110 cm x 190 cm	aluminium	19 "	1	yes (range 60 km)	10.000 €	www.urban-cab.com	removable Box	
NL	De Fietsfabriek	***Bakfiets Classic***	3	150	150	-	L 88 x B 62 x H 53 cm	front	x 88 cm	steel	-	1	optional	1.895,00 €	www.defietsfabriek.nl		
DE	die Fahrradwerkstatt	***gustav w. Transportmobile Klassik***	3	35 (min.)	180	280	L 100 x B 75 x H 30 cm / L 100 x B 75 x H 60 cm / L 120 x B 75 x H 40/60 cm	front	230 - 250 cm x 101 cm	steel	front 20" back 16"	6	optional	2.490,00 € - 3.990,00 €	www.die-fahrradwerkstatt.de		
FR	La Petite Reine	***Cycloprop***	3	90	180	-	L 120 x B 90 cm	back	235 cm x 103 cm	steel	-	1	yes (max. 20 km/h)	-	www.lapetitereine.com		
DE	Speedliner-Mobility	***Triliner***	3	-	200	-	L 60 x B 30 x H 80 cm 123 l	back	-	aluminium/ steel	26"	1	optional	-	www.speedliner-mobility.de		
UK	Pashley	***Classic No. 33***	3	-	200	-	L 95 x B 66 cm	front	-	-	-	-	-	-	www.pashley.co.uk	with cooling box	
UK	Pashley	***Loadstar***	3	-	200	250	-	back	-	steel	-	-	-	-	www.pashley.co.uk		

Country	Manufacturer	Name	Number of Wheels	Weight in kg	max. payload in kg	max. total weight in kg	Size loading area / box / loading volume	Position (main) loading area	Size cargo bike	Frame material	Size Wheels	No. Models	Electric assistance	Basic price	Contact	Special	Example
FR	Cyclopolitain Vehicules	***CycloCargo***	3	129	250	340	1,5 m³	back	265 cm x 100 cm x 190 cm	aluminium	26"	1	yes	7.000 € inkl. Tax	www.cyclopolitain-vehicules.com		
UK	Cycles Maximus	***Cycles Maximus Cargo Trike***	3	54 - 85	250	335	L 123 x B 90 x H 94 cm 1 m³	back	260 cm x 120 cm	steel	front 20" back 23"	3	optional	3.070,00 € - 5.115,00 € + VAT	www.cyclesmaximus.com		
UK	Maxpro Pedicap	***Maxpro EcoCargo***	3	70	250	310	L 125 X B 100 x H 70 cm / 875 l L 125 X B 100 x H 95 cm / 1250 l	back	255 cm x 120 cm	steel	front 24" back 23"	2	no	3.450,00 €	www.pedicabshop.com		
NL	Workcycles	***Classic Dutch Cargo trike***	3	-	400	-	L 120 x B 75 x H 30 cm L 150 x B 75 x H 30 cm L 190 x B 90 x H 20 cm depending on model	front	-	-	26"	4	no	3.500,00 € - 4.100,00 €	www.workcycles.com		
NL	Workcycles	***Dutch Transport Trike***	3	-	400	-	L 120 x B 75 x H 30 cm L 150 x B 75 x H 30 cm L 190 x B 85 x H 20 cm depending on model	front	-	-	26"	3	no	3.650,00 €	www.workcycles.com		
NL	Workcycles	***Sweeping and park maintainance trike***	3	-	400	-	-	front	-	-	26"	1	-	on request	www.workcycles.com		
NL	Nijland	***Lastenrad***	3	-	500	-	L 185 x B 85 x H 20 cm	front	-	steel	26"	1	no	-	www.nijland.com		
NL	Nijland	***corvee Bike***	3	-	-	-	L 102 x B 65 x H 83 cm	front	-	steel	front 20" back 26"	1	no	-	www.nijland.com		
NL	Nijland	***Ecobike***	3	-	-	-	-	front	-	-	front 20" back 26"	1	no	-	www.nijland.com		
SE	Cargobike AB	***Cargobike Cruiser***	3	42	-	-	L 102 x B 57 x H 32-47 cm	front	217 cm x 90 cm	steel and plumbago	front 24" back 26"	2 (1 elektr.)	optional	ca. 2.265,00 € - 3.170,00 €	www.cargobike.se		
UK	The Cargo Bike Company	***Haul All***	3	30	-	150 - 250	L 61 x B 61 cm	front	213 cm	steel	26" (oder front 20")	1	optional	ca. 850,00 €	www.cargobike.co.uk		
UK	The Cargo Bike Company	***Tamar***	3	30	-	150 - 250	L 61 x B 61 cm	front	213 cm	steel	26" (or front 20")	1	optional	ca. 850,00 €	www.cargobike.co.uk		
FR	La Petite Reine	***Cargocycle V1 / V2/ Frigocycle***	3	80 / 100 / 120	150 / 180 / 180	-	1400 l / 1500 l / 1200 l	back	235 cm x 98 cm / 103 cm / 103 cm	steel	-	3	yes (max. 20 km/h)	-	www.lapetitereine.com	Frigocycle: with cooling	
DE	Work-Bikes	***Cargo "The Van"***	4	125	200	-	1,2 m³	back	291 - 309 cm x 120 cm	steel	16"	1	optional	5.780,00 € + VAT	www.work-bikes.de		
DE	Work-Bikes	***Stablemate 180***	4	94	250	-	-	back	277 - 295 cm x 120 cm	steel	16"	1	optional	3.795,00 € + VAT	www.work-bikes.de		
NL	Vrachtfiets	***Cargo***	4	150 (ca.)	400	-	L 200 x B 95 x H 100 cm	back	300 / 320 cm x 110 cm	steel	-	1	yes	-	www.vrachtfiets.nl	1 - 2 drivers	
NL	Vrachtfiets	***Pick Up***	4	150 (ca.)	400	-	L 200 x B 95 x H 40 cm	back	300 / 320 cm x 110 cm	steel	-	1	yes	-	www.vrachtfiets.nl		

*retailer information