On the Way to a Climate-Neutral City Administration – What is the Contribution of Cargo Bikes?

Six cargo bike projects at DLR's Institute of Transport Research *in a nutshell*

Background

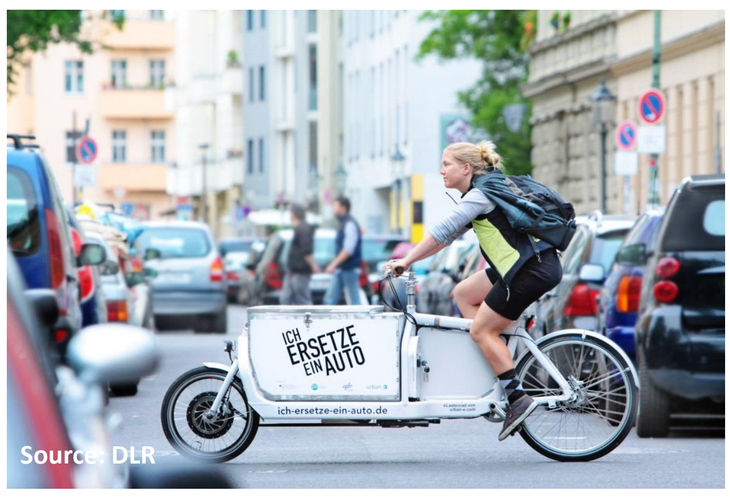
Throughout Europe, municipalities are under pressure to reduce their emissions. To achieve this goal, many processes need to be rethought, such as a shift to zero-emission transportation. Simultaneously, the transition must not cause substantial cost increases…

Cargo bikes can be a solution for this.

This is what the experience of 10+ years of cargo bike research projects has shown us.

Source: Johannes Gruber

Project "Ich ersetze ein Auto" (2012-2014)



Source: DLR

- 125,000 shipments and 500,000 km of cargo bike mileage, carried out by 8 courier companies
- Demonstration of the general feasibility for substituting car trips

Project "WIV-RAD" (2014-2016)

- Inventory of cargo bike use cases reveals diversity of application
- Evaluation of the substitution potential (see above)
- Synopsis of legal frameworks and recommendations for policy-makers

Scenario	Shiftable trips	Shiftable mileage
S1 conservative assumptions	8 %	1 %
S2 increased willingness-to-use	13 %	2 %
S3 long-term maximum potential	23 %	4 %

Source: Gruber/Rudolph (2016): Schlussbericht WIV-RAD

Project "TRASHH" (2016-2020)

- Spotlight on municipal city cleaning (partner: Hamburg's city cleaning)
- Beneficial especially in sensitive areas such as parks
- With sensible selection of riders, their sense of responsibility and self-motivation can be increased

	Conventional cleaning	Cleaning using cargo bikes	Effect
Inner city area	9 employees in 4 vans No cargo bikes	6 employees in 2 vans 3 employees on 3 cargo bikes	Cost: -23% CO_2: -34%
Suburban area	8 employees in 3 vans	2 employees in 1 van 6 employees on 6 cargo bikes	Cost: -1% CO_2: -60%

Icons: SRH, DLR

Source: Gruber/Peters (2020): Ergebnispräsentation TRASHH

FCCP
Source: DLR

Project "FCCP" (2018-2023)

- FCCP = Fuel-Cell Cargo Pedelec
- Development of H_2 fuel-cell system
- Tests in 3 municipal application fields in Stuttgart, Issy-les-Moulineaux and Aberdeen

Project "Ich entlaste Städte" (2017-2020)

- Europe's largest public trial with 152 vehicles and 2 years' testing in total
- 110 municipal and public participants
- Half of the involved municipalities rated the suitability of cargo bikes as positive and economically viable
- About 30% decided to purchase their own cargo bike afterwards

Source: DLR

Project "Ich entlaste Städte 2" (2021-2025)

- 12-months of in-depth testing opportunities for companies
- Complimentary use of bikes and LEVs
- Development of tools and guidelines for municipalities, disseminators and service providers
- Find more information at:

LASTENRADTEST.DE

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Outlook

Despite potential advantages of cargo bikes for purposes of local government, many municipalities are still hesitant. One reason for this could be the lack of information regarding the spectrum of peer experiences.
We will therefore continue to expand our knowledge in this field and use it to offer helpful services and handouts for municipal decision-makers.

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