USER REQUIREMENTS FOR AN E-CARGO BIKE SHARING SYSTEM

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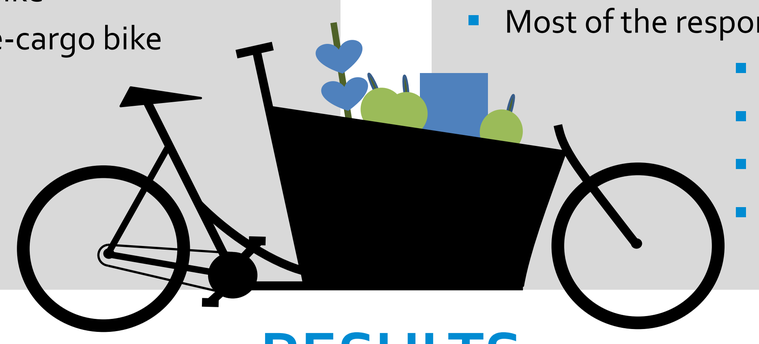
BACKGROUND

In recent years, more and more cities have been aiming to banish motorized traffic from their city centers to reduce transport related CO_2 emissions, create space and decrease noise. Micromobility solutions, such as (e-)bike sharing systems, have the great potential to mitigate car use while ensuring mobility in cities. However, the transportation of cargos, such as bottle crates or baggage, forms a barrier of usual (e-)bike usage. Here, e-cargo bikes represent a useful complement. For a successful introduction of an e-cargo bike sharing system within a city, user requirements related to this type of vehicle and sharing system as well as potential reasons and barriers for using the sharing system should be assessed. The objective of the present study was to identify user requirements regarding the implementation of an e-cargo bike sharing system in Freiberg (Saxony, Germany).

METHOD

ONLINE SURVEY

- Assessment of:
  - Mobility needs & purchasing behavior
  - **Typical trips** that would be made with an e-cargo bike
  - **Typical cargos** that would be transported with an e-cargo bike
  - **General reasons and barriers** for using an e-cargo bike sharing system
- Duration: ~ 30 minutes

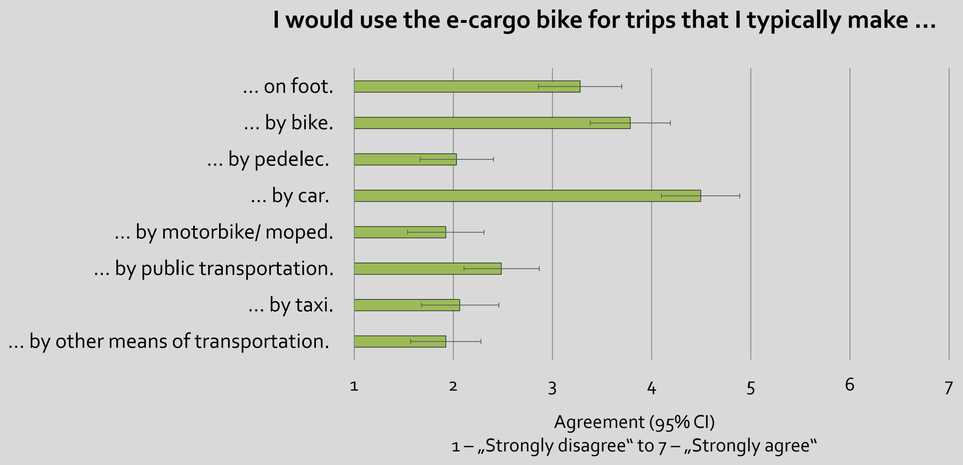


SAMPLE

- ***N* = 93 potential users** (41 female, 52 male) residing in Freiberg (Saxony, Germany, ~ 40,000 inhabitants) or in the surrounding area
- Mean age**: 31 years** (*SD* = 9.37)
- Most of the respondents …
  - … have a full time job (44%)
  - … have a university degree (68%)
  - … own a bike (94%)
  - … usually ride the bike daily (33%)

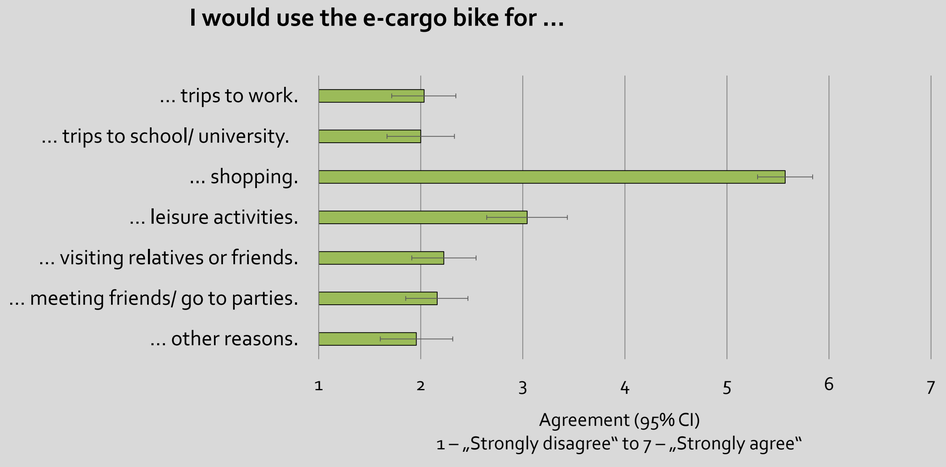
RESULTS

Fig. 1. **Substitution effects of e-cargo bikes.**



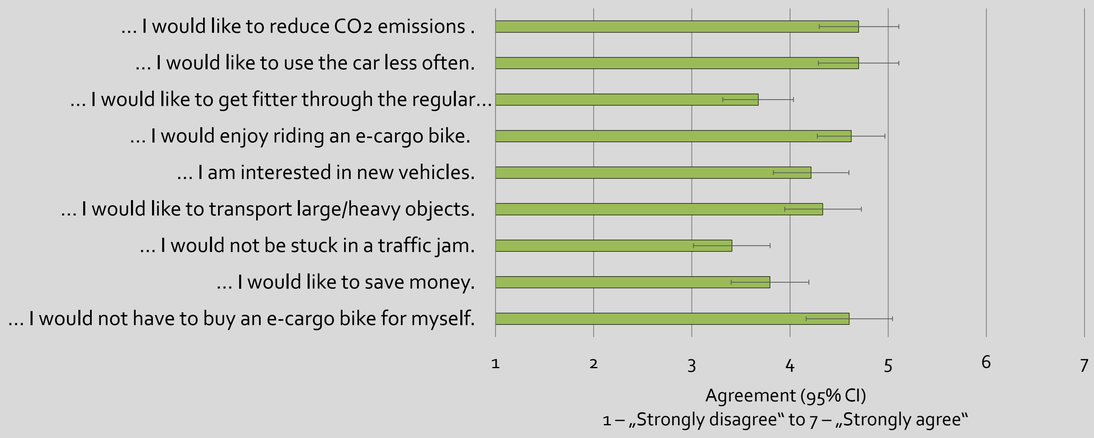
- The e-cargo bike sharing system would mainly be used to **replace trips typically made by car**.

Fig. 2. **Typical trips that would be made with an e-cargo bike.**



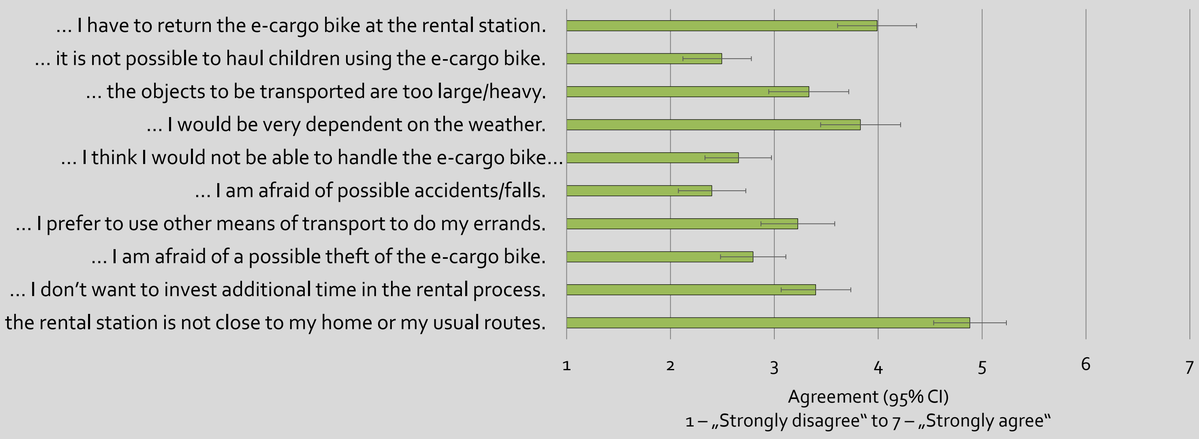
- The e-cargo bike would mainly be used for **shopping trips**.

Fig. 3 . **Reasons for using an e-cargo bike sharing system.**



- The main reasons for using the e-cargo bike sharing system are: **Reducing CO_2 emissions, fun of cycling, using an e-cargo bike without buying an own one.**

Fig. 4. **Barriers to using an e-cargo bike sharing system.**



- The main barriers to using the e-cargo bike sharing system are: **Location of sharing stations, weather dependency.**

CONCLUSION

The results show that the e-cargo bike would mainly be used to replace trips typically made by car, such as doing the shopping. For this reason, the e-cargo bike should have the capacity to carry one or two shopping bags and a bottle crate. Moreover, some respondents stated that they would also transport baggage and cargos needed for leisure activities when using the e-cargo bike. With regard to potential reasons for using the sharing system, it was found that most of the respondents would use the e-cargo bike because they could then mitigate car use and reduce CO_2 emissions. Fun of cycling and the possibility to use an e-cargo bike without having to buy one for themselves were further potential drivers. The location of sharing stations and the weather dependency proved to be potential barriers. In sum, the results demonstrate the great potential of an e-cargo bike sharing system for contributing to a sustainable mobility in (small) cities.

Here you can get the poster …

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SteigtUM!