Speed pedelecs for commuting A field trial Michael Sülflow

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KOCITOS FFFG Promoting Innovation. Frederal Ministry Republic of Austria Climate Action, Environment Energy, Mobility, Innovation and Technology

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Status quo: speed pedelecs in Austria

- Popularity of e-bikes is on the rise, speed pedelecs account for <1% of e-bike sales (in Switzerland 14%*)
- (2) Speed pedelecs would offer an **attractive alternative to cars** for commuters.
- (3) Speed pedelecs are **legally** equivalent to mopeds in Austria
 - ban of use of cycling infrastructure
 - Driving licence, insurance, registration and type approval required
 - → Legal framework possibly a restricting factor for speed pedelecs

(1) What is the **potential** of speed pedelecs to shift commuters away from cars?

Research questions

- (2) Is this **potential limited** by the current regulations in Austria?
- (3) How should the current legislation in Austria be assessed from a **safety perspective**?
- (4) Which possible **alternative regulations** regarding speed pedelecs would be conceivable in order to
 - exploit their potential as a mobility alternative to cars, yet still
 - ensure a high level of road safety



Methodology: Field study and accompanying surveys



Sample characteristics





Field study and accompanying surveys

Online surveys

- 4 surveys in total
 - 1. pre start
 - 2. post pedelec
 - 3. post speed pedelec
 - 4. 3 months later
- based on the Health Belief Model

App data / driving data Cluster analysis (500 m x 500 m)

- Driving speed ped/S-ped
- Travelling time
- Conflicts
- Detailed analysis of
 - ~2,300 trips
 - in 1,378 clusters
 - Distance travelled: 23,155 km



POSETIV

Driving speeds in Austria (mean speed in km/h)



Participants' feeling of safety

In your opinion, when did you feel you had mastered riding the pedelec / speed pedelec?



■ first day ■ second day ■ after second day

Pedelecs: n=63, Speed pedelecs: n=52



Participants' feeling of safety



I'm able to ride safely in all situations

How safe do you feel when...?





Top 4 positive and negative aspects



Top 4 positive aspects when riding the speed pedelec



n=52



Potential

If no: Would you change your decision if the ... were Are you planning to buy a lifted? speed pedelec? prohibition to use the 66% bicycle infrastructure maybe 10% no obligation to use a 86% yes 40% motorcycle helmet 3% 0% 20% 40% 60% 80%

n=52



Conclusions

Potential

• Speed pedelecs have a high potential as an alternative mode of transport for commuting

Legal framework

- Legal requirements (moped driving license, motorcycle helmet, registration plate and third party insurance) were not perceived negative
- Participants of the field trial considered being prohibited from using the cycling infrastructure (beeing obliged to ride on the roadway) to be the most negative aspect when riding speed pedelecs

Driving speeds

- higher than for pedelecs
- far lower than the maximum assistance speed of 45 km/h
- Outside of built-up areas the v₈₅ reached nearly 40 km/h

Vehicle control

• some of the participants still did not feel completely safe even after two weeks



Recommendations

Driving speed \rightarrow Legal framework

- Opening up the cycling infrastructure to speed pedelecs, but only under certain conditions (taking into consideration: width of the cycle path, volume of cycle traffic and speed of motor vehicles)
- No general opening up of the cycling infrastructure to speed pedelecs – as is the case in Switzerland – as the speed differences between speed pedelecs, pedelecs and classic bicycles – especially outside of built-up areas – are too high.

Vehicle control & Awareness raising

- Training for speed pedelec newbies recommended.
- Awareness-raising for speed pedelec riders with regard to potentially critical situations including other road users.
- Awareness also recommended for car drivers (e.g. as part of the driving licence curriculum) about speed pedelecs and their characteristics.

Recommendations for decision-makers

• Information, motivation and specific offers for individual users



The report on the study and the recommendations for decision-makers are available at: www.kfv.at/S-pedelecs and www.kfv.at/S-pedelecs and www.kfv.at/S-pedelecs

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