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“Cycling was never so easy!”

Analyzing e-bike commuters motives, travel behaviour and experiences using GPS-tracking and interviews

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Background: e-bike use, growth and diversification

- Almost 1 in 3 bikes sold in The Netherlands today has some form of electrical assistance.
- E-bikes permit covering longer distances at higher average speeds against reduced physical effort (Fishman & Cherry 2013)
- Despite high use among older people and for recreational purposes, they are increasingly used by younger retirees, working adults and younger people for commuting, shopping and going to school (Peine et al, 2016, KIM, 2016, Plazier et al, 2017)

Objectives and research questions

- Provide further insight in the potential of e-bikes to substitute motorized commuting
- What were motives for purchasing and starting to use an e-bike?
- Under what conditions can e-bikes substitute motorized commuting?
- What role do travel experiences play in the daily commute by e-bike?

Main findings

- E-biking manifest itself as an appealing alternative to motorized commuting for those
  - For more, visit www.researchgate.net/profile/Paul_Plazier
  - The authors of this poster previously studied e-bike use among the younger population, a study among Dutch students. Travel Behaviour and Society 8 (2017).

Data and methods

- N = 24 e-bike commuters (M= 45, SD = 9.3)
- Participants formerly commuted by car or public transport, and had recently adopted an e-bike. They still used e-bike, car and public transport interchangeably
- Phase 1: 14-day GPS tracking of all outdoor movements. Phase 2: follow-up in-depth interviews
- GPS-data formed the input for follow-up in-depth interviews, transcripts were used to complement and validate GPS-data
- Complementing and contrasting results permits a “multi-layered understanding” (Meijering & Wettkamp, 2016)

Conclusions

- E-biking manifest itself as an appealing alternative to motorized commuting for those
- Direct competition with car use means that efforts to increase e-bike use should be directed at car directors
- E-bike commuting might not always be the faster option, but enabling an appealing e-bike ride to work can mitigate the role of increased travel time in commuting
- The findings suggests that health and enjoyment can make a significant contribution to realizing sustainable travel behaviour. Promoting health and enjoyment of e-biking can support the development of sustainable transport systems that support active and healthy lifestyles.

Past, current and future research

- The authors of this poster previously studied e-bike use among the younger population, see Plazier et al, 2017. “E-bike use among the younger population, a study among Dutch students”. Travel Behaviour and Society 8
- The project presented here is under review with an international academic journal
- Current and future research explores the contribution of e-bikes to mobility in daily life of rural residents. This study is conducted with Province Groningen and Gemeente Eemsveld.
- For more, visit www.researchgate.net/profile/Paul_Plazier

Main trigger:

- Personal history
  - Has lived in the city before
  - Cycled to school/work in earlier life stages
- E-bike adoption
  - Changes in home environment (people, children, children growing up)
- Environmental factors
  - E-bike availability
  - Job/healthcare compensated

Facilitated by:

- Intrinsic motivations
  - Changes in home environment (people, children, children growing up)
  - E-bike availability
  - Job/healthcare compensated

E-bike adoption mostly followed a key event

- The majority of participants adopted an e-bike following changes in the home or work environment
- Changes prompted participants to start e-bike commuting routes

E-biking to work longer than taking car or public transport

<table>
<thead>
<tr>
<th>Commuting trips characteristics (N=36)</th>
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</thead>
<tbody>
<tr>
<td>Mode</td>
</tr>
<tr>
<td>Car</td>
</tr>
<tr>
<td>E-bike</td>
</tr>
<tr>
<td>Bus</td>
</tr>
</tbody>
</table>

E-bike use was shorter when more activities were combined and in non-work-related journeys, in which car use, conventional cycling and walking were more common.

Cycling was experienced differently in and outside the city

- Participants mentioned the difference between assisted cycling in and outside the city was a major influence on cycling experience.
- Overall, they felt they got less advantaged when they were in the city due to the increase in traffic, traffic lights and complex traffic situations, which led to loss of momentum and interrupted flow.

E-bike commuting routes

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