Pedelecs & Cycle Highways

Together a dream team for future commuters.
(A comparison NL – DE)

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„Position and Image of the Pedelec“
Velo-City session on June 15th 2017 in Nijmegen
Comparison on Pedelecs*

Elektrische fietsen in NL

- Longest experience in daily practice in Europe, especially by the elderly
- Evolved public discussion on purposes and qualities
- All kind of user groups, also childrens‘ long ways to school instead of just school busses
- Adequate cycling infrastructure and smart mobility management action

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**Elektrofahrräder** in DE

- Late starter, only ca. ¼ density of NL pedelecs by population
- Quick evolving market: now 0.4 Mio sold p.a., strong export bicycle industry
- A regional state‘s industrial policy ambition in Baden-Württemberg‘s cycling strategy, to become a technical front runner in global collaboration
- Poor user data yet, but several fine research projects

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**Snelle Fietsroutes in NL**

- **High CROW standards** (in red) additionally to the well evolved quality cycling networks

- **Integrated mobility approach**, also big investing into bicycle parkings at railway stations

- **Heavy implementation** all over the country, beautiful bridges & tunnels

- **Re-discovered by national transport policy**: 700 Mio € investment until 2025 ca. 3-4 € per inhabitant and year
Comparison on Cycle Highways

**Radschnellverbindungen in DE**

- **Greenways** on riverbanks and former railway tracks already well usable for commuters
- **Regional „minor“ standards** vs. FGSV tech. guidelines and Land NRW (similar to NL standards)
- **Many potentials‘ / feasibility studies**, but few real funding yet (except Land NRW‘s legislation)
- **Since recently: 25 Mio € p.a. co-funding from federal infrastructure budget** ca. 0,30 € per inhabitant and year

Quelle: Planersocietät, DTP, VIA, Orange Edge
State of cycle highways, NL and DE

**DE:**
- implemented (in parts)
- planning/study (at reduced or different standards)

**NL:**
- Scheme for 2025

Source: SOAB, fietssnelwegen.nl (2015)

Source: Gwiasda / Erler 2016
Means „NL vs. DE 2:0“

So what‘s next for DE, many years behind the NL?

- Blaming the referee?
  „There are so powerful car manufacturing national champions in DE“

- Trial and error in each of the Federal Länder?
  Diversity of regional solutions possibly to become a strength later?

- Learning from the many neighbours?
  SE, DK, NL, BE, LU, FR, CH, AT, CZ, PL…

- Cross-border exercise?
  Send Dutch consultants and „Fresh Brains“ students NL -> DE

- Cross-border infrastructure?
  Euregios‘ cycle highways: Heerlen-Aachen, F35 extension Enschede-Gronau-Ochtrup, …

- Join European expertise?
  e.g. by „CHIPS“, exchange on state of the art standards, …
F35 cycle highway into DE
The „Schwerin test“, comparison of travel modes
standard commuters‘ relation of 4 miles from housing area into Schwerin‘s city centre

… measuring: travel time, travel costs, energy / CO2, exposure to weather, calories burned, stress, to match other public interests.

>> Pedelec the overall winner.

Photo/map: Competence Centre for Rural Mobility at Wismar University of Applied Sciences, Prof. Udo Onnen-Weber on behalf of Federal Ministry of Transport (2012)
Travel modes burned calories during trip to work

Percentage more than least physical activity (motor bike – shortest walk to access
Source: „Schweriner Versuch“ by Wismar Univ. of Appl. Sciences & EcoLibro)

- Fossil car: 45%
- Electric car: 27%
- Fossil/electric motorbike: Reference 0%
- Bicycle: 210%
- Pedelec: 147%
- Public transport & walk: 99%
- Public transport & folded bicycle: 82%
Travel modes by stress during trip to work

Median of stress responses of travel mode measured per minute

Source: „Schweriner Versuch“
Former travel mode of today’s pedelec users in Germany

Source: ITD / IFEU 2016
Company based travel plans!

Berlin’s commuter project: 330 employees testing pedelecs during 2 months

Crucial: safe parking at both origin and destination (workplace, bike&ride); safe parking good practice from Vienna (AT) and Montpellier (FR)
New station bicycle parkings
Dortmund, Utrecht, Norderstedt, Rotterdam
Smart Pedelec Sharing in Kopenhagen/Rotterdam and more PedelecSharings in Europe, e.g. in Zürich, Aachen...
MaaS - Mobility as a Service
Public transport plus pedelec for several first/last miles

- **Flexible access by cycling**, time to read while travelling in public transport
- **Physical activity** during way to work; but by pedelec not arriving sweaty at work
- **Saving energy** while substitute of car use
- **Quicker direct express bus services**, also in difficult settlement types to cover

**Wider catchment area** of a bus stop, same access time:
- Walking 1 km =
- Bicycle 2,5 km =
- Pedelec 4 km
MaaS - Mobility as a Service
Public transport & pedelecs, interlinked by Mobility Hubs („Mobilstationen“)?

Hubs / bicycle parking & rental to become part of PT funding?

Scenario / model for Münsterland region (ST-mobil)  Image: ZNM; Photo: RVM)
New international standards (to lock, charge, rent)
Outlook: Battery exchange service system
Instead of users to buy and own the expensive batteries
Thank you for listening.

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