Understanding the trip and user characteristics of the combined bicycle and transit mode (PPT)

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Publication date
2017

Document Version
Final published version

Citation (APA)

Important note
To cite this publication, please use the final published version (if applicable).
Please check the document version above.

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Understanding the trip and user characteristics of the combined bicycle and transit mode

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Research objectives

1. To understand the bike and transit combination
   - Benefits
   - Users
   - Potential

2. To design optimal bike and transit transport
   - Routes, parking
   - Transit networks
   - Sharing facilities
   - Integrated design
Ontwikkelingen in mobiliteit
Potential Bike and Transit

- Improving access and egress
- Improving door to door mobility
- Enhanced Public transport design
Modal share

Share of bicycle as access mode to transit (%)

Netherlands | Copenhagen | Munich | UK

0 | 0 | 0 | 0
Understanding the current situation

- Dutch OVIN survey
- A one-day trip diary survey
- Representative of the population of the Netherlands
- More than 250,000 respondents
- Nearly 700,000 trips over the course of 6 years (2010-2015)

- Limited focus on bike-transit combination
- Latent class cluster analysis
Access transport

- To Train: 43%
- To Bus, Tram, Metro: 81%
- Walking: 13%
- Car: 5%
- Bicycle: 23%

Challenge the future

TU Delft
Bike access and egress distances

Acces

- Train
- Bus, tram, metro

Egress

- 1.5 km
- 0.7 km

Challenge the future
Impact of PT quality on biking
Users

- 9% University students living alone
- 2% Pensioners
- 10% Middle-aged female part timers
- 14% Young professionals with a low income
- 15% School children
- 27% Middle-aged male professionals
- 23% University students living with parents
Traveler preferences

Bike time as a base

Examples:
One minute of bike time is equal to 1.36 minute of train time
One minute of bike time is equal to €0.11
(of parking price)
Conclusions

- Bike and PT combines benefits of both
- Potential to improve door to door services
- Potential for enhanced quality and efficiency of PT

- Relatively new research area
- Many knowledge gaps

- Challenging: data acquisition and analysis

- To do: Part 2: (Improving) integrated design
Literature

http://nielsvanoort.weblog.tudelft.nl/


Brand, J., N. van Oort, B. Schalkwijk, S. Hoogendoorn (2017), Modelling Multimodal Transit Networks; Integration of bus networks with walking and cycling, MT-ITS Conference Napoli.

Van Mil, J. (2017), Influencing station choice of cyclists, TU Delft

Leferink, T. (2017), Understanding the bicycle & train combination, TU Delft


Discussion: Current Bike and transit practice

How does biking as access and egress mode looks like in your country?

What are the characteristics (infrastructure, facilities, usage, modal split, etc.)

Potential?

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