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AUSTRIAN INSTITUTE OF TECHNOLOGY
TOMORROW TODAY

INTRODUCING ADDITIONAL LOW EMISSION MOBILITY OPTIONS IN A WELL CONNECTED AREA

Challenges and Opportunities

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SMARTER TOGETHER

PROBLEM STATEMENT

Main challenge:

- contribute to achieve the Europe 2020 goals in cities and regions
- transport sector among the main sources of greenhouse gas emissions

Further challenges:

- technological solutions can only partially contribute (rebound effects)
- limited potential to foster/rely on public transport (PT) due to progressive urbanization, attached costs and limited flexibility

➢ *behavioral aspect is of major importance to tackle environmental challenges and secure a high standard of living*

➢ *increasing individualization of society requires more flexibility and hence an additional pool of mobility options*

RESEARCH FRAMEWORK

- EU project “Smarter Together” in Lyon, Munich, Vienna
- strives for CO_2 savings by implementing projects in the in the fields of energy, renovation and mobility

- project in Vienna: introduction of additional low emission mobility options in the well connected project area (in terms of PT/general network)

➢ *what is the potential of mobility behavior changes in such a well connected area?*

➢ *what are the opportunities of additional services (e.g. sharing offers) and what challenges in their implementation are attached?*

APPROACH

MOBILITY SURVEY

Viennese project area

- northwest of 11th district “Simmering”
- 1.5 km²; 21,300 inhabitants; mixed use
- existing structure prevents major rebuilding of infrastructure

Data collection

- adults (≥18 yrs) living or working in the area
- conventional mobility survey complemented by
  - the meanings of different modes of transport and
  - stated preference mode choice questions

Data analysis

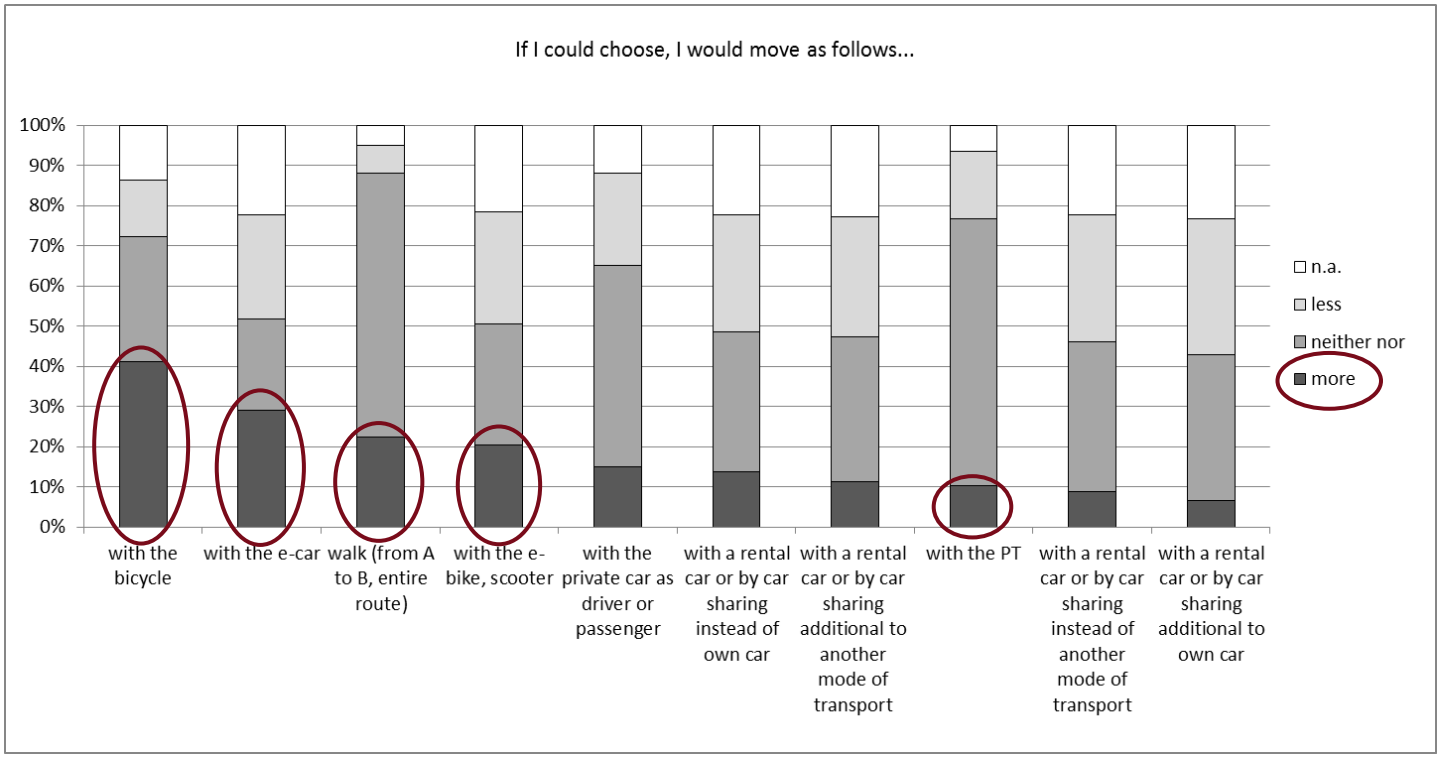
- multi-level survey analysis
- grouping based on current mobility behavior

Sample

- hybrid-sample (59% online, 41% face-to-face)
- 1% of the area population (N=21,300; n=241)

POTENTIAL OF MOBILITY BEHAVIOR CHANGES

- *what is the potential of mobility behavior changes in such a well connected area?*



POTENTIAL OF MOBILITY BEHAVIOR CHANGES

- *what is the potential of mobility behavior changes in such a well connected area?*

Supportive factors

Strengths:

- good standing of active mobility, particularly cycling
- walks are often part of a longer trip that includes PT
- PT is already heavily used

Opportunities:

- many want to cycle more
- not all have access to motorized vehicle(s)
- linkage of PT to other types of transportation allows improvement

Constraining factors

Weaknesses:

- sharing services are hardly known
- e-bike features and advantages are not known
- strong orientation towards PT
- current infrastructure does not encourage cycling

Threats:

- current infrastructure encourages driving
- two thirds have a driver's license
- proximity to PT stations thwarts active modes

OPPORTUNITIES OF ADDITIONAL SERVICES

➢ *what are the opportunities of additional services (e.g. sharing offers) and what challenges in their implementation are attached?*

(e-)bike offers

- 41 % would like to cycle more often
- preconditions for e-bike sharing system:
  - usage at a cost of 1 € per trip if time saving ≥6 min
  - optimal positioning to ensure useful connections
  - vehicles with additional benefit (e.g. transport of goods)

(e-)car offers

- 14 % would like to use car sharing more often instead of their own car
- 11 % would like to use it on a regular basis in addition to other modes
- mode choice is **not** linked to the travel time **but** to the cost of PT and walking distance as the alternative
- e-car sharing depends on a good vehicle distribution within the area

CONCLUSION

USER GROUP ACCEPTANCE AND REQUIREMENTS

Public transport users

- cycling provides the option to avoid overcrowded public transport during peak hours
- providing bicycle parking spaces at transport stations can increase the attractiveness of cycling

Pedestrians and cyclists

- offers for longer distances (e.g. bike sharing) save time and allow transport of goods
- e-bike sharing has to be adequate in terms of
  - availability
  - accessibility and
  - related costs

Motorized vehicle users

- unrestricted usage of motorized vehicles in the area challenges other options
- corresponding image change in the area essential to reach user group

CONCLUSION

- a successful introduction of additional low emission mobility options strongly depends on
  - the characteristics of the offer itself
  - how well the implementation addresses
    - requirements for performance
    - minor shortages in the current infrastructure
    - spatial conditions
  - encouraging openness towards alternatives via
    - information and low-level access
    - trial periods to test unfamiliar mobility alternatives
  - linking different (multimodal) mobility services e.g. by implementing "mobility points" acting a major component of ICT solutions

➢ *the insights are taken into account in the conceptualization of mobility points in the study area*

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