INTRODUCING ADDITIONAL LOW EMISSION MOBILITY OPTIONS IN A WELL CONNECTED AREA

Challenges and Opportunities

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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 CO₂ savings by implementing projects 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?
APPRAOCH

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

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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

<table>
<thead>
<tr>
<th>Public transport users</th>
<th>Pedestrians and cyclists</th>
<th>Motorized vehicle users</th>
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<tbody>
<tr>
<td>• cycling provides the option to avoid overcrowded public transport during peak hours</td>
<td>• offers for longer distances (e.g. bike sharing) save time and allow transport of goods</td>
<td>• unrestricted usage of motorized vehicles in the area challenges other options</td>
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<tr>
<td>• providing bicycle parking spaces at transport stations can increase the attractiveness of cycling</td>
<td>• e-bike sharing has to be adequate in terms of availability, accessibility and related costs</td>
<td>• corresponding image change in the area essential to reach user group</td>
</tr>
</tbody>
</table>
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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