Overcoming Challenges Facing Innovative, Sustainable Mobility Services in Rural Areas

Simone Schreiegg\(^1\), Annina Thaller\(^1\), Eva Fleiß\(^1\), Sophia Ritter\(^1\), Alfred Posch\(^1\)

(1) Department of Environmental Systems Sciences, University of Graz, Austria

Keywords: accessibility, barriers, enablers, passenger transport, shared mobility, demand responsive transport

(A) THEORETICAL BACKGROUND

Passenger transport, rural areas, GHG-emissions, car dependency and the threat of social exclusion

SOLUTION

INNOVATIVE, SUSTAINABLE, MOBILITY SERVICES

ENABLERS

BARRIERS

CHALLENGES

HIGH PER CAPITA GHG-EMISSIONS

CAR DEPENDENCY, SOCIAL EXCLUSION WITHOUT A CAR

CAUSES

HIGH RELIANCE ON PRIVATE MODES OF TRANSPORT

LONGER TRAVEL DISTANCES BETWEEN PCs

URBAN SPRAWL

LOW POPULATION DENSITY

LIMITED AVAILABILITY OF PUBLIC TRANSPORT

RURAL AREAS

Figure 1: Causes of mobility challenges in rural areas and the role of sustainable, innovative mobility services

(B) RESEARCH APPROACH

RESEARCH GAP: Previous research emphasizes the need to identify both barriers and enablers for sustainable mobility. Existing studies focus on barriers and enablers mainly in urban contexts. Scarcity of research on barriers and enablers in rural areas.

RESEARCH QUESTIONS:
1. What are barriers to the design, presentation and acceptance of innovative, sustainable mobility services in rural areas?
2. Which challenges do mobility service providers face when attempting to establish and maintain innovative, sustainable mobility services?
3. Which enablers can help to surmount the identified barriers?

METHODS: Mix of qualitative methods (literature review, expert interviews) to obtain a holistic overview of barriers and enablers for innovative, sustainable mobility services in a representative rural region in Styria (Austria)

LITERATURE REVIEW

EXPERT INTERVIEWS (n=18)

QUALITATIVE CONTENT ANALYSIS (14)

(C) RESULTS

(C1) Experienced barriers can THEMATICALLY be separated into three categories (15):

- Barriers stemming from regional, geographical characteristics (e.g. topographical differences, urban sprawl, lack of infrastructure)
- Barriers impacting the demand side (e.g. emotional attachment to the car, convenience, skill-based barriers to booking the service)
- Barriers impacting the supply side (e.g. financial challenges, lack of utilization, inappropriate use of services and demolition)

(C2) Experienced barriers can be categorized according to the TIME OF THEIR OCCURRENCE (15):

- Type 1: Occur in the conceptualization phase
- Type 2: Occur in the provision phase
- Type 3: Occur after provision and affect utilization

(C3) The identified enablers that contribute to overcoming the barriers identified vary depending on when the barriers occur (15, see figure 3).

- Enablers Type 1: e.g. reassessment of the spatial planning concept and the construction of basic infrastructure
- Enablers Type 2: e.g. innovative insurance solutions and business models that fit the service
- Enablers Type 3: e.g. innovative communication to potential consumers (target groups) and simplifying of the booking process

Figure 3: Synthesis of Type 1, 2, 3 barriers and potential enablers (15, p 20)