Main topic: P4 - How to Nudge People into New Mobility Thinking and behaviour

MaaS a holistic solution also for the last urban mile at the urban periphery? - OptiMaaS*

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Good variety of mobility services is mostly restricted to urban centres while urban non-core areas are heavily reliant on ownership-based mobility. OptiMaaS focuses on strategies to implement MaaS offers in urban non-core areas addressing multimodal solutions, the integration of services and rethinking and redesigning urban and transport policy and planning.

In recent years, (e-) car-, (e-) bike- and e-kickboard-sharing have emerged in European cities as mobility solutions in addition to public transport. In most cases, their areas of operation are limited to urban centres, where population density is high, and operators expect high(er) frequency of use and revenues. In counterpart, urban non-core areas remain heavily car dependent because of lower service quality in public transport (PT) characterized by long distances between stations, longer…

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*Optimized Mobility as a Service - Holistic mobility solutions for the urban periphery

intervals or shorter operating times. In addition, on-street parking is often charge-free and road infrastructure is focused on car traffic, while walking and cycling networks are often interrupted or less directly, impacting the attractiveness of these modes. Mobility solutions in urban centres often end up replacing trips with PT, indicating that in cities core areas; new mobility services compete with PT while urban non-core areas, where mobility solutions are needed at most, suffer from lack of services.

New methods and processes addressing the needs of public and private mobility actors to enhance the use and acceptance of alternative mobility service offers with precise focus on urban non-core areas are needed. OptiMaaS components deliver **integrated solutions** in the fields of (1) Urban Planning and Policy making, (2) Mobility Service Configuration and Business Models, (3) Mobility Operations and Impact Simulations, (4) IT solutions for MaaS - Frontend and Backend Prototype for On-demand-services and (5) User behaviour and acceptance.

All those components are either tested within one of our **Lab-modules** or the generated input of the labs is improving the tool (simulation, mobility point configuration) or both. Within our presentation we want to give first insights of our Lab results. Namely the Policy-Lab and Co-creation-design-Lab and how those inputs influence **data driven planning**, respectively the simulation of changed mobility behaviour and the configuration of mobility points creating and integrating mobility services especially in new residential areas. Closing the circle of our integrated approach the Policy-Labs also support the processes for changing the MaaS-framework conditions in policy and planning by giving them data-based decision tools at hand.

- Based on a **Policy-Lab** the **necessary adjustment activities in the field of urban policy and planning** to best face the challenges arising when implementing new mobility offers especially in urban non-core areas will be presented.
- The **lessons learned** from a personas-based **Co-creation-design-Lab** on IT solutions for MaaS show diverse requirements when it comes to digital and physical integration of MaaS-offers in the urban fringe.

What is new?

The main innovation lies in providing a self-adjusting framework that closes the existing gaps between policy makers, MaaS-operators (physical and virtual platforms) and end users in a highly integrated approach. This is achieved by investigating the interconnections between urban planning, policy making and business models for the efficient development and implementation of strategies for achieving effective MaaS services in urban non-core areas continually integrating citizens feedback through systemic impact analysis of OptiMaaS solutions. Goal is to build a basis for data driven policy making without missing effects of soft measures on all levels.

What is transferable to other cities and regions?

The developed processes, labs and project components are developed with comparability and upscaling in mind. Necessary adaptions in terms of city sizes and structures (population, spatial characteristics, existing transport infrastructure and operators, legal framework) make sure that developed tools deliver tailored results to local situations. As an example, Policy Labs on city level are important to discuss the necessary

activities in the field of MaaS for a practical portfolio of lifestyle-oriented, market-oriented and regulation-oriented policies as well as public infrastructure/services related actions and respective decision needs to calculate the achievement of an optimal future MaaS scenario within the cities.

What are outcomes and conclusions?

From OptiMaaS activities until now, we affirm that acceptance of MaaS offers by users depends to a large extent on the attractiveness of the alternatives to private vehicle ownership. Integration of shared mobility and on-demand services with PT can raise the attractiveness of PT, making it more efficient and flexible. In addition, pedestrian and bike infrastructure should also be part of a MaaS strategy and policies. Besides, the chances that arise with the implementation of MaaS "as a general concept that could make modal choice more efficient and climate friendly" make the work on improving MaaS framework conditions extremely important.

Who are the main target groups?

Concerning the efficient implementation of diverse MaaS offers the definition of a game plan has to be established to bring stakeholders and city/users interests together. The dialogue evolving district management, experts of city departments, cross-municipal cooperation, transport service providers, competence centres for future urban issues and research institutions is understood as an important factor to foster MaaS at the urban fringe. Other fundamental actor is the citizen, dialogs with citizens are important to understand the needs, fears and wishes of users and non-users tackling the main challenge of communicating MaaS offers to strengthen the position of MaaS as a good mobility solution.

And what now? - What will change? - What is the relevance for the future?

Within OptiMaaS we are aware, that especially the users' mobility attitudes and patterns may have changed caused by covid19 for the moment and/or for a longer perspective. Especially the acceptance of using shared means and PT will be affected. This needs to be considered in the further mobility system development. Changes in future MaaS offers are very likely and necessary and therefor a self-adjusting framework becomes even more relevant. That is exactly where we build on. Within our project we collect(ed) data in user and policy labs. These information need to be reflected with regard to the new situation and to be translated into policy and mobility management recommendation. Further we have to adapt parts of our research methodology to the framework conditions of corvid19 and we will test some new ways of participation to include various stakeholders like potential users, experts, planners and decision makers.

Link to the project:

https://www.optimaas.eu/

About the Authors:

As the project leader of *OptiMaaS* **Angela Muth** is working on innovations in the field of MaaS and multi- and intermodal mobility at tbw research GesmbH. Her main approach is to include user perspectives and gender and diversity aspects both into research and project management. Another key qualification lies in her ability to connect and build trust with stakeholders and experts when developing process innovations and overcoming silo thinking. Angela Muth holds a Master degree (DI) in urban and regional planning.

Renata Pereira de Souza is junior researcher in the mobility area at tbw research GesmbH with experience in research projects and project management assistance in international cooperation projects. Competencies in quality control processes, municipal strategic planning and ecological and sustainable management. Vision and creativity in creating data evaluations, qualitative and quantitative elevations (interviews, creation of questionnaires, workshops).

As co-founder and managing partner of MO.Point Mobilitätsservices GmbH **Stefan Arbeithuber** dedicates himself to innovations in shared mobility and sustainable transportation. Within OptiMaaS his research is focused on product-price bundling and new business models and partnerships in MaaS ecosystems. Stefan Arbeithuber holds an MBA in product and innovation management and a diploma in industrial design.

Wiebke Unbehaun, holds a doctorate in Natural Resources and Life Sciences as well as a degree in Spatial Planning. She is an expert in mobility and gender research and planning. For more than twenty years she has been working on innovative approaches to managing current and future mobility pattern and traffic flows while preserving quality of life and the environment in urban and rural areas. Her wish is to propagate a better and healthier lifestyle by promoting sustainable and environmentally friendly mobility through her work. To this end, she uses a wide range of scientific and applied research and management methods in the main areas of her work: mobility studies, mobility management and awareness raising, promotion of cycling and walking, concepts for shared mobility and MaaS, as well as the design of planning processes and the integration of spatial and transport planning.