



Rural-Urban Outlooks: Unlocking Synergies (ROBUST)

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Snapshot: Expressions of Urban – Peri-Urban – Rural Relationships

Analysing regional mobility in the Metropolitan Area of Styria

Metropolotian Area of Styria, Austria

1. Brief Description

The three-year INTERREG Central Europe project “Peripheral Access” (2017 – 2020) involves nine partners from seven European countries with regional case studies in each of these countries, including the Metropolitan Area of Styria in Austria. The main objective of the project is to improve mobility patterns in rural areas. In order to achieve this goal, the project focuses on integrating transport modes through multimodal mobility points, new ways to employ Intelligent Technology Systems (ITS) and Information and Communication Technology (ICT) in transport and smart mobility. Moreover, it aims to enhance institutional cooperation between transport authorities and to implement cross-border marketing approaches. Therefore, each partner region conducts an analysis of the status quo of the regional mobility patterns for further development of the supply and the comparability of case study regions. The first progress-report of the case study (Verkehrsplus 2018) serves as the basis for this rapid appraisal of project approach and findings.

The analysis of the mobility patterns in the Metropolitan Area of Styria concentrates on the peripheral areas of the region, in the districts Graz-Umgebung (surrounding area of Graz) and Voitsberg. The city of Graz is included only indirectly by analysing the transport links from and out of the city. The overall focus in the report is, next to the status quo analysis of the infrastructure, to make recommendations for action in the field of multimodality, smart mobility and smart governance.

2. Questions and/or Challenges

In order to improve mobility patterns in the Metropolitan Area of Styria, an analysis of the status-quo of the transport system (i.e. the road and rail network, availability of busses and cycling infrastructure) was carried out. In addition, the mobility needs such as accessibility of public transport stations and central nodes, access quality of public transport and mobility offers were explored in a first phase.

The base survey of the current situation was followed by an evaluation of the results using a SWOT-analysis. Local mobility and traffic infrastructure stakeholders assessed the strengths and weaknesses of the mobility patterns and discussed opportunities and threats of future-oriented mobility strategies and further development instruments.

Another central objective is the analysis of multimodal mobility concepts. The concept of multimodality is based on the idea of relying on a mixture of transport modes instead of just one. Long distance railway stations and city-suburban express train services seem to be predetermined for multimodal connection points. A number of them were tested in the Metropolitan Area of Styria and if approved, intermodal hubs will be further developed.

Further topics of the analysis addressed the decision-making process and the level of involvement of stakeholders and of the local population. Participation is secured through an annual, obligatory meeting and several optional municipality meetings, which are open to citizens to discuss mobility problems and to bring suggestions to public authorities. Moreover, the local population is often asked to participate in local surveys on mobility and transport organisation issues and mobility options.

3. Main Insights

3.1. Indications of the application of the new concept of 'New Localities'

Mobility is the need, the ability and the requirement of people to change location in order to access resources. This applies to spatial mobility, which requires a change of location, but interacts also with “social mobility” issues, which are not the focus here. It can be divided into different types defined by extent and periodicity of spatial movements, generally including: migration, involving the permanent change of residence, recurrent movements (daily, weekly or other temporary change of location), and the transport-related-mobility. The type of mobility requires different transport infrastructures and offers. In the Metropolitan Area of Styria, the close interlinkage between the core city of Graz and the surrounding municipalities is very important. As Graz is the only large traffic node in the region, this is especially true for the long-distance railway network. The connection between the municipalities in the metropolitan area and the city of Graz, as well as to the long-distance railway network, are guaranteed by the city-suburban express train service. In areas with inadequate train service, several (regional) bus services provide the public transport. However, the regional bus service is partly insufficient, because it primarily concentrates on the school transport network and therefore offers few separate lines and rides off the peak hours. In order to better serve remote areas with insufficient public transport connections, a shared hailed taxi service, called GUSTmobil, was implemented.

In addition to the infrastructure for the motorised private traffic and the public transport system, the Metropolitan Area of Styria has a highly-developed network of cycling trails. Some of the cycling pathways were originally designed for tourism but are partly used by daily commuters (both employees and students, etc.). Although the region focusses on improving cycling as a primary transport mode for the whole region, until now cycling is

mostly concentrated in the city of Graz. In comparison to other (Austrian) cities, the share of cycling in the modal split is rather high (14,5%, 2013). Also, improving the infrastructure for pedestrians is increasingly a priority in urban planning. This includes activities to improve the accessibility to public transport nodes within walking distance.

3.2. Insights related to the broad area of 'Smart Development'

The Regional Mobility Report (2018) of the Metropolitan Area of Styria involves also the analysis of smart development concepts. The region focusses on smart mobility, which is defined as energy efficient, low-emission, safe, comfortable and cost-efficient mobility. It is based on optimising existing mobility options with the help of ICT. Furthermore, a focus area of the analysis is smart governance, which is characterised by strong citizen involvement and participation in decision-making processes, and by offering extensive government e-services.

The study area analysed the issue of smart mobility and ICT through two specific projects: The regional best practice example GUSTmobil, which is a demand-responsive transport service in the form of a hailed shared taxi, and an application with real time public transport information, called “BusBahnBim” (verkehrsanskunft.verbundlinie.at).

GUSTmobil is a cross-community micro-public transport option that was implemented in 2017 in 29 of the 36 municipalities in the district of Graz-Umgebung. The overall objective of the project is to improve the accessibility of the communities and the connection to public transport nodes, both in the outskirts and the city of Graz. Rides can be booked via phone or app, which provides real time information about the public transport. The GUSTmobil is a complementary offering and is not intended to complete with conventional public transport services. Therefore, the intelligent disposition software in the background guarantees, in addition to efficient routing and pooling analytics, the exclusion of parallel rides. Furthermore, a dense network of about 1,800 collection points ensures short distances to access the hailed shared taxi.

“BusBahnBim” is an app prepared by the Styrian Integrated Transport Association, which provides real time information about the public transport in the region. It can be used to check all the diverse public transport connections in Styria, but not yet the services provided by GUSTmobil. The app uses a multimodal approach, so users can check on the possibility to bring a bike on the train/bus or to park a car in a Park & Ride space outside of the city.

Smart mobility and ICT are future-oriented fields of service with high development potential in the Metropolitan Area of Styria. The Regional Mobility Report (2018) includes several recommendations for action in this area, including:

- Expansion of real-time information on city-suburban express train and regional busses at all main corridor stops.
- Smart ticketing as an approach for future development in the field of public transport and in connection with multimodality (electronic smart card).

- Exploration of smart ticketing options in the metropolitan area in cooperation with municipalities, state and federal government, the transport association, transport companies and other mobility providers on all mobility options.
- Implementation of a pilot project in the field of smart ticketing in one part of the region.
- Use of IT-tools to distribute multimodal mobility offers in the Metropolitan Area of Styria.

In the progress report (Verkehrsplus 2018) several recommendations for action related to smart governance in the meaning of innovative and transparent decision-making processes are also mentioned:

- Participation, feedback and optimisation of all mobility offers on media channels with low access barriers.
- Implementation of a toolkit for mayors and municipality representatives, how to design citizen participation processes and how to integrate citizens in decisions in the field of mobility.

In addition, the Metropolitan Area of Styria analyses and tests the use of multimodal connection points. REGIOtim is one on-going project that follows the implementation of these intermodal hubs at railway and city-suburban express train stations. Furthermore, in the district of Graz-Umgebung, several E-Car Sharing options, which are implemented by the municipalities, are offered. These E-Car Sharing stations can also be upgraded to additional intermodal hubs.

3.3. Other insights that could be relevant for further work

Following the analysis of the mobility patterns in the Metropolitan Area of Styria, a SWOT-analysis of the results was conducted. A workshop with relevant stakeholders for mobility issues and transport infrastructure was organised to receive additional professional views on the current mobility situation in the region. The following findings are mainly derived from that professional exchange:

Factors that enable beneficial relations between rural, peri-urban and urban areas:

- The Metropolitan Area of Styria is growing, demographically and economically.
- It encompasses highly motivated stakeholders who all want to optimise the public transport network.
- There has been already a lot of research concerning mobility patterns and mission statements.
- There is a strong link to the capital city of Graz.
- Encouragement and support through external framework conditions, like specifications by the EU (e.g. through the White Papers on Transport, and the

Trans-European Transport Network), national plans, like the Austrian General Transport Scheme, and provincial plans, like the Styrian General Transport Scheme.

Factors that limit beneficial relations between rural, peri-urban and urban areas:

- The mindset towards public infrastructure and sustainable mobility development is partly missing in politics and administration.
- Due to the predominant concentration on the motorised private transport, the appreciation of public transport need and potential is still limited.
- The low use of public transport can be explained by an insufficient offer of information as well as gaps in harmonisation of timetables.
- Difficulties in restructuring and modernising the route network due to its former development.
- Demographic development for remote municipalities is predicted to further decrease with the result of declining demand for public transport.
- Compatibility with external conditions, like EU-guidelines, national plans and so on.

Potential for more beneficial relations:

In terms of public transport, there is the potential to expand the offer by increasing the frequency and by expanding the route network. Municipalities close to Graz or along large-scale economic development corridors, like Graz-Maribor and Graz-Klagenfurt, are expected to increase in population. This forecast points to a huge potential to increase the public transport offer along these corridors. Therefore, it is necessary to implement a consistent public transport offer and overcome the temporal and seasonal differences. There is already a good public transport offer for pupils, but the offer has to be developed and coordinated for other target groups, like commuters.

One objective of the Metropolitan Area of Styria is to implement multimodal mobility concepts. Therefore, the potential of city-suburban express nodes and bus stops along the main corridors could be tested as intermodal hubs, where different means of transport can be combined.

Another future-oriented topic with high development potential in the region is smart ticketing. This can be realised in form of a smartcard, where transport entitlements for public transport and other services (parking, car- and bike-sharing facilities, etc.) are stored electronically on a microchip. In many cases this microchip is embedded in a smart card and can be recharged.

Another reasonable development possibility in the field of smart mobility and ICT is the linkage via a higher-level platform (e.g. Styrian Integrated Transport Association) in order to guarantee a consistent information provision beyond the borders of the Metropolitan Area of Styria.

The potential to improve mobility in the Metropolitan Area of Styria is diverse. The cycling strategy of Styria 2025 (Amt der Steiermärkischen Landesregierung 2016) focuses on daily use of cycling in areas with high potential, like regional centres and settlements with good accessibility to public infrastructure nodes. In general, the accessibility of public infrastructure by cycling, but also by walking, is a high priority in the metropolitan area. The quality of access to public transport can be improved significantly through enhancing these mobility modes by overcoming some of the main impediments of accessibility.

4. Data Sources and Indicators

Table 1 Data / Indicators for Analysing regional mobility in the Metropolitan Area of Styria

Data / Indicator	Source
Accessibility of public transport stops	Verkehrsplus (2018) Analyse: Regionale Mobilität Steirischer Zentralraum. Peripheral Access. Endbericht 2018. p. 28ff.
Evaluation of the demand-related minimum offer	Verkehrsplus (2018) Analyse: Regionale Mobilität Steirischer Zentralraum. Peripheral Access. Endbericht 2018. p. 17
Quality of public transport (travel time comparison between public and private transport options)	Verkehrsplus (2018) Analyse: Regionale Mobilität Steirischer Zentralraum. Peripheral Access. Endbericht 2018. p. 23ff.
Accessibility of public transport nodes (quality of location, travel time)	Verkehrsplus (2018) Analyse: Regionale Mobilität Steirischer Zentralraum. Peripheral Access. Endbericht 2018. p. 14ff.
SWOT analysis about the results of the mobility pattern	Verkehrsplus (2018) Analyse: Regionale Mobilität Steirischer Zentralraum. Peripheral Access. Endbericht 2018. p. 41ff.
Regional mobility plan Voitsberg <ul style="list-style-type: none"> ○ Data on infrastructure (roads, railway, city-train, busses) 	Amt der Steiermärkischen Landesregierung (2016): Regionaler Mobilitätsplan Teilregion Voitsberg – (Steirischer Zentralraum).
Regional mobility concept Graz and Graz Umgebung <ul style="list-style-type: none"> ○ Data on infrastructure (roads, railway, city-train, busses) 	Amt der Steiermärkischen Landesregierung (2010): Regionales Verkehrskonzept Graz und Graz Umgebung
Cycling strategy Styria <ul style="list-style-type: none"> ○ Data on cycling infrastructure 	Amt der Steiermärkischen Landesregierung (2016): Starker Antritt. Radverkehrsstrategie Steiermark 2025.
Demand-related minimum offer	Land Steiermark (2016): Bundesweite ÖV-Standards für Österreich im Regionalverkehr, Vortrag DI Bernhard Breid, 19. Oktober 2016
Guidelines about design and functionality of micro-public transport offers in Styria	STS & Verkehrsplus (2016): Mikro-ÖV Strategie Steiermark, im Auftrag des Landes Steiermark, Graz.

Survey on mobility, public transport and micro-public transport	Verkehrsplus GmbH (2018b): MobErfolgAmLand. Daseinsgrundfunktion im ländlichen Raum? Erfolgsfaktoren zur Implementierung alternativer Mobilitätsservices. Förderprojekt des bmvit im Programm Forschungspartnerschaften – Industrienahe Dissertation 2014.
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5. Critical Appraisal of Data Use

The progress report of the project, as well as the regional mobility plan of Voitsberg, provides fundamental knowledge about mobility patterns in the Metropolitan Area of Styria. The analysis presents important data about the utilisation of the public transport network and about the accessibility of public transport. This is crucial information for further enhancing existing options and developing new transport development. In particular, the collected data can be processed in the ongoing project of “REGIOtim”, which concentrates on the implementation of intermodal hubs in rural areas. Moreover, the data in the progress report is the basis for further research. For example, the analysis indicates that 80 percent of the 205,000 inhabitants in the Metropolitan Area of Styria (exclusive the city of Graz) can reach a public transport station by foot. However, these data don’t provide information about the accessibility of the bus stops due to topographic obstacles, like rivers and mountains, and furthermore about the frequency of the public transport service.

6. References

The report is based on the progress-report “Analysis: regional mobility in the Metropolitan Area of Styria” and is supplemented by the Regional Mobility Plan of Voitsberg and information of the website of the Styrian province.

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