# MARA Mobility Expert Report

**Report as part of the MARA Interreg project on the further development of mobility services for local public transport in rural regions in the state of Mecklenburg-Vorpommern**

MARA
Mobility and Accessibility in Rural Areas

Interreg Baltic Sea Region

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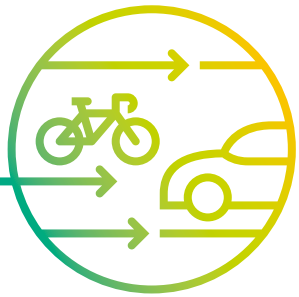
# Contents



# Executive summary

- The objective and task of this MARA Mobility Report (MARA: Interreg Project "Mobility and Accessibility in Rural Areas") consist of the creation of a list of measures to improve the mobility of residents and tourists in rural regions in Mecklenburg-Vorpommern as well as to determine the associated subsidy requirements for a state-wide scaling of the measures.
- The subject of the research is the 15 mobility services summarised in **TABLE 1**. The analysis was carried out using desktop research of all mobility services and expert interviews focusing on eight selected mobility services.
- A map in the appendix (**10.2**) provides an overview of the current service areas of the on-call bus systems, community buses and community transport services.

**TABLE 1.** Overview of the analysed mobility services (expert interviews in bold)

| DISTRICT | MOBILITY SERVICE | SERVICE TYPE (STATUS) | SERVICE CHARACTERISTICS |
|---|---|---|---|
| VG | ILSE-Bus | Timetable-free on-call bus (in operation) | On-call bus in local public transport as a feeder bus and supplement to the regular bus service |
| LRO | Community bus Poppendorf | Community bus (in operation) | Demand-responsive community bus with volunteer drivers as a supplement to the regular bus service |
| LRO | On-call scheduled flexible bus | Timetable-based on-call bus (in operation) | On-call bus in the local public transport system as a replacement for regular bus services |
| NWM | Flexible on-call bus system | Timetable-free on-call bus (in operation) | On-call bus in the local public transport system primarily as feeder bus for the coordinated bus network |
| NWM | MintesO – Reduction of greenhouse gas emissions from school transport using intelligent systems for route and driving style optimisation | Optimisation of school transport (in planning) | Optimisation of the afternoon/midday school transport using spontaneous demand-responsive routes |
| NWM | Cooperative real-time transport system (KETS) | Timetable-free on-call bus (in planning) | On-call bus with 'secondary job personnel' in the local public transport system primarily as feeder bus for the coordinated bus network |
| NWM | Mobility app for NAHBUS Nordwest-mecklenburg GmbH | Local public transport app (in planning) | Local public transport app for journey planning and sales incl. on-call bus booking |
| MSE | On-call bus systems within the conventional regular bus services | Timetable-based on-call bus (in operation) | On-call bus/hailed share taxi in the local public transport system as a replacement for regular bus services |

| DISTRICT | MOBILITY SERVICE | SERVICE TYPE (STATUS) | SERVICE CHARACTERISTICS |
|---|---|---|---|
| MSE | Community bus ELLI | Community transport service (in operation) | Community transport service as feeder bus and supplement to regular bus service |
| LUP | Bürger-Aktiv-Bus for the Balow district | Community transport service (in operation) | Demand-responsive community transport service as a supplement to the regular bus service; minibus hire for association members |
| LUP | On-call bus | Timetable-based on-call bus (in operation) | On-call bus in the local public transport system in coordinated transport primarily as feeder bus, replacement and supplement to the regular bus service |
| LUP | Community vehicle for the Banzkow municipality | Community transport service (in operation) | Demand-responsive community transport service as a supplement to the regular bus service and minibus hire |
| VR | Alternative mobility services in the Wittenhagen municipality | Transport service (in operation) | Demand-responsive transport service of a nursing service and minibus hire during the minibus downtimes |
| VR | Ride share benches | Ride share bench (in operation) | Waiting zones for ride share opportunities in the Altenpleen (22) and Stralsund administrative districts (2) |
| VR | E-mobility model region Ummanz | Community transport service (in planning) | Demand-responsive community transport service as a supplement to the regular bus service |

By analysing programs, concepts and plans at the state, regional and district level as well as by analysing the mobility services and best-practice examples to improve mobility by incorporating expert know ledge, a list of measures was derived.

→ **TABLE 2** has a maximum subsidy requirement of about €4 million per year if all mobility services are realised state-wide. The implementation begins with individual, different mobility services and requires lower subsidies initially. These rise proportionally with progressive scaling up to full implementation in about ten years (2030) to the maximum value.

**TABLE 2.** Maximum subsidy requirement for state-wide scaling of the mobility services with a time horizon to 2030

| MOBILITY SERVICE | POTENTIAL OPERATIONAL AREAS | RESIDENT POTENTIAL | RESIDENT EXPLOITATION | QUANTITY UNITS | SUBSIDY/ YEAR |
|---|---|---|---|---|---|
| Timetable-based on-call bus | Rural | 831,955 residents | 60% | 1.2 million occ. km/year | €1,964,000 |
| Timetable-free on-call bus | Rural + small / medium-sized towns | 1,083,621 residents | 25% | 36 vehicles | €1,368,000 |
| Community bus | Rural + small / medium-sized towns | 1,083,621 residents | 5% | 22 vehicles | €112,000 |
| Community transport service | Rural | 831,955 residents | 10% | 33 vehicles | €168,000 |

| MOBILITY SERVICE | POTENTIAL OPERATIONAL AREAS | RESIDENT POTENTIAL | RESIDENT EXPLOITATION | QUANTITY UNITS | SUBSIDY/ YEAR |
|---|---|---|---|---|---|
| Car sharing | in central towns in the rural region | 223,872 residents | 15% | 34 vehicles | €153,000 |
| Scheduling system | State-wide use | | | 1 system | €90,000 |
| Call centre | State-wide use | | | 100,000 calls/year | €100,000 |
| Mobility manager | State-wide use | | | 2 people | €125,000 |
| **Total** | | | | | **€4,080,000** |

- The following measures are recommended for short-term implementation:
  - Establishment of a mobility management office (approx. €125,000/year)
  - Creation of a community bus guideline (approx. €30,000–40,000)
  - Specification of the further **implementation of service levels 4 and 5** of the integrated state transport plan (on-call bus/hailed share taxi, community bus/community transport service, intermodal/community transport, etc.) with a time horizon for state-wide scaling to 2030 (approx. €25,000–30,000)
- The practicability of the list of measures for the further development of mobility services in rural regions depends on the required financial and personnel resources being available.
- In the printed documents of the state parliament (Landtagsdrucksache 7/2668) dated 04.10.2018, the parliamentary groups of the CDU and SPD request with their motion 'Further development of mobility services for local public transport in rural regions' that the state government submit a report on existing projects for local public transport to improve mobility in rural regions. The current report can be submitted in response.
- The results of the expert report, particularly from the mobility services in use that were analysed, can be used as the basis of further processing of the Interreg project MARA.

# 1 Introduction and statement of task

In all European countries, ensuring mobility in rural regions is a major challenge. To face this challenge, the Interreg project MARA (Mobility and Accessibility in Rural Areas), which examines the mobility and accessibility in and from rural regions, was initiated with a time frame from January 2019 to June 2021. The German MARA partner is the Ministry of Energy, Infrastructure and Digitalization of Mecklenburg-Vorpommern (short name: Energy Ministry) in cooperation with the district of Ludwigslust-Parchim in the case study 'Timetable-based on-call bus' (see **CHAPTER 4.2** and **APPENDIX 10.7.2**). Further details about the MARA project are available on the internet page www.mara-mobility.eu.

As a basic element of the MARA project, the Energy Ministry initiated the current investigation into the further development of the mobility services for local public transport in rural regions with two primary tasks. On one hand, existing mobility projects that were cited by the districts upon the request of the Energy Ministry are to be evaluated and analysed regarding their transferability and scalability. On the other hand, the financial and technical framework for expansion of the mobility projects to the whole state must be determined. The concerns of the residents in rural regions and of tourists were taken into account in the process.

The state parliament of Mecklenburg-Vorpommern has determined that mobility is a critical prerequisite for the current and future well-being of our society. To also ensure equivalent living conditions in rural regions, the preservation and expansion of mobility are of critical importance. The state parliament therefore requested the state government to investigate and evaluate the mobility services available in Mecklenburg-Vorpommern (printed documents of the state parliament Landtagsdrucksache 7/2668). In response to this request, the current MARA report can be submitted.

# 2 Aim, subject of the research and structure

## 2.1 Aim

The aim of this investigation is the preparation of a list of measures to improve the mobility of residents and tourists in the rural region as well as any associated costs or requirement for subsidies by the state of Mecklenburg-Vorpommern.

## 2.2 Subject of the research

- The subject of the research is essentially the 15 mobility services, which were named by the districts at the request of the Ministry, in the rural regions of the state of Mecklenburg-Vorpommern and which are summarised in **TABLE 3**.
- The current areas of use of the on-call buses, community buses and (community) transport services investigated in detail in the expert interviews are shown on the map in **APPENDIX 10.2**.
- Allocation of the 15 mobility services to the service types:
  - Timetable-based on-call bus: demand-responsive minibus transport with local public transport fares with timetable and route linking
  - Timetable-free on-call bus: demand-responsive minibus transport with local public transport fares with no timetable and route linking
  - Community bus: minibus transport with volunteer drivers with fixed travel times/routes/days (in part also a mixed format with community transport services)
  - Community transport service: minibus transport with volunteer drivers only on demand (in part also a mixed format with community buses)
  - Transport service: minibus transport with full-time drivers only on demand
  - Optimisation of school transport: optimisation of the afternoon/midday school transport using spontaneous demand-responsive routes
  - Local public transport app: smartphone application for journey planning and sales incl. on-call bus booking
  - Ride share bench: bench on the side of the road where passengers can wait for a share ride

**TABLE 3.** Overview of the analysed mobility services (expert interviews in bold)

| DISTRICT | MOBILITY SERVICE | SERVICE TYPE (STATUS) | SERVICE CHARACTERISTICS |
|---|---|---|---|
| VG | ILSE-Bus | Timetable-free on-call bus (in operation) | On-call bus in local public transport as a feeder bus and supplement to the regular bus service |
| LRO | Community bus Poppendorf | Community bus (in operation) | Demand-responsive community bus with volunteer drivers as a supplement to the regular bus service |
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| VR | Alternative mobility services in the Wittenhagen municipality | Transport service (in operation) | Demand-responsive transport service of a nursing service and minibus hire during the minibus downtimes |
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| VR | E-mobility model region Ummanz | Community transport service (in planning) | Demand-responsive community transport service as a supplement to the regular bus service |

## 2.3 Structure

- Analysis of programs, plans and concepts at state, regional and district levels (state regional development program, integrated state transport plan, regional development program, state development concepts, local transport plans) in regard to expansion and information about the local public transport service levels 4 (on-call bus, hailed share taxi, etc.) and 5 (community/intermodal transport, community bus/community transport service, etc.) that are defined in the integrated state transport plan (see also **TABLE 4**) as well as for tourism transport (see **CHAPTER 3**);
- Preparation of all 15 mobility services using desktop research in the form of descriptive profiles in order to obtain a better understanding of the services (function, fares, operating times, operational model, usage, special features, etc.) (**CHAPTER 4** and in particular **APPENDIX 10.1**);
- Completion of eight expert interviews with responsible persons from selected mobility services to obtain information about the origin, practical experiences and requests to the state of Mecklenburg-Vorpommern (**CHAPTER 4**);
- Description of best-practice examples to improve mobility in the rural region (**CHAPTER 5**);
- Preparation of a list of measures taking the statement of task and the aim into account (**CHAPTER 6**);
- Execution of a quantity-cost calculation for the list of measures to estimate the financing requirements necessary for the implementation (**CHAPTER 7**);
- To carry out the investigation, a kick-off workshop on 08.01.2020 and an interim workshop on 16.03.2020 were conducted in Schwerin as well as agreements to finalise the expert report by telephone and email from March to July 2020. A final presentation was held on 25.06.2020.

# 3 Analysis of programs, concepts and plans at the state, regional and district level

- The following planning works in Mecklenburg-Vorpommern were evaluated with the focus on information relating to 'Local public transport/mobility/tourism':
  - State regional development program for Mecklenburg-Vorpommern
  - Integrated state transport plan for Mecklenburg-Vorpommern
  - Regional development programs of the planning regions
  - Integrated rural development concepts or regional development concepts of the districts
  - (Regional) local transport plans of the districts and planning regions
- The key statements are reproduced in **CHAPTERS 3.1–3.5** and **CHAPTER 3.6** contains a summary evaluation.

## 3.1 State regional development program for Mecklenburg-Vorpommern

- Chapter 5 'Infrastructure development' of the state regional development program for Mecklenburg-Vorpommern contains the following information about mobility in rural regions in the subsection 5.1.1 'Mobility and accessibility', paragraph 2:
  - *In rural regions adequate mobility of all population groups must be ensured.*
  - *This requires innovative solutions, particularly in the rural planning regions.*
- Section 5.1.2 'Infrastructure and modes of transport' states in paragraph 5 regarding local public transport:
  - *Local public transport should be developed as appropriate, economic and environmentally reasonable mobility services for all regions. Taking into consideration a high level of efficiency and based on the integral coordinated timetable of rail public transport, tailored, more attractive and service-based overall concepts should be developed between rail, express and feeder buses as well as flexible modes of transport.*
- For the summary evaluation, see **CHAPTER 3.6**

## 3.2 Integrated state transport plan for Mecklenburg-Vorpommern

- The key objective of transport policy according to the integrated state transport plan for Mecklenburg-Vorpommern from 2018 (ILVP M-V 2018): Sustainable mobility that harmonises economic, social and environmental requirements as far as possible.
- From this general principle the following guidelines are derived:
  - Plan networked transport
  - Safeguard mobility
  - For public financing of mobility, set clear and realistic priorities
  - Achieve better balance across the individual modes of public transport
  - Design transport to conserve resources
  - Avoid or shift traffic
  - Reinforce the social components of transport

→ **TABLE 4** describes the planning approach of an integrated local public transport system as a 5-level system.

**TABLE 4.** Integrated local public transport system in the 5-level model (ILVP M-V 2018)

| SERVICE LEVEL | SERVICE CHARACTERISTICS |
|---|---|
| Level 1 | Efficient rapid connections by train or bus (main network) |
| Level 2 | Coordinated bus connections to the remaining relations with a greater demand |
| Level 3 | Demand-responsive route transport particularly in school transport (if necessary, supplemented by other regular services) |
| Level 4 | Supplementary flexible service forms such as on-call regular buses, hailed share taxi, etc. that service travel times and relations with weaker demand and enable an appropriate mobility service even in sparsely populated regions |
| Level 5 | Other community transport services in particularly sparsely populated rural regions in which even flexible service forms are not economically viable. With cost coverage rates between 6% and 41% flexible service forms require a minimum passenger potential of about 3,000 to 5,000 residents in the area of operation. Below this threshold, services organised by the communities (e.g. community buses), combined transport of passengers and small loads (intermodal bus), private sharing and the integration of patient transport come into consideration |

→ **TABLE 5** describes the operational principles for mobility in rural regions.

**TABLE 5.** Operational principles for mobility in rural regions (ILVP M-V 2018)

| PRINCIPLE OF ACTION | EXPLANATION |
|---|---|
| Integration | Denser network of various modes of transport |
| Transporting people | Access to existing but as yet unused resources (e.g. vehicles) |
| Mobility centres | Mobility management for the purpose of bundling of the population's mobility needs (trains, regular bus services, on-call buses, hailed share taxis, taxis, commercial/private ride sharing options) |
| Utilising freedom of design | Utilising existing freedom of design by community agents, opening and differentiation of established standards, willingness to exploit unconventional solutions |
| Connect municipalities | Development of organisational responsibilities to connect (rural) municipalities to shape public mobility without intervening in the local public transport network responsibilities of the districts |
| Encourage cycling | Utilising the expandability of bicycle transport (incl. pedelecs, electric bikes); improving the connection between rural regions by combining local public transport and bicycles |

→ On the subject of 'Mobility and tourism' the following statements were made
→ **Aim:** As many tourists as possible should arrive without a vehicle or at least leave their car on site.
→ **Adaptable mobility services for tourists**: 'Door-to-door' services along the entire travel chain are important for arrivals and departures. Mobility at the holiday destination requires services that are tailored to the special needs of tourists.

- **Customer-oriented information:** Easily understandable information about existing services. To bring the mobility services to tourists requires targeted marketing.
- **Tourism regions with the profile 'Sustainable mobility'**: Regions that bundle sustainable tourism mobility based on a holistic mobility concept and develop it into their own trademarks.
- For the summary evaluation, see **CHAPTER 3.6**

## 3.3 Regional development programs

- **TABLE 6** provides an overview of the four regional development programs (RDP) analysed with a focus on 'Local public transport at service levels 4 and 5 and tourism transport services' of the four regions in Mecklenburg-Vorpommern.

**TABLE 6.** Overview of the regional development programs analysed

| REGIONAL DEVELOPMENT PROGRAMS | YEAR |
|---|---|
| Vorpommern | 2010 |
| West Mecklenburg | 2010 |
| Mecklenburg Lake District | 2011 |
| Central Mecklenburg/Rostock (now: Rostock region) | 2011 |

- Regional development programs (RDP) include on one hand definitions/principles about various spatial planning issues and on the other hand justifications for the definitions/principles used.
- The definitions/principles in two RDPs include flexible/demand-responsive services to ensure an economically viable minimum service in the local public transport (Vorpommern, Mecklenburg Lake District). In two RDPs there are statements about tourism services (Mecklenburg Lake District, Central Mecklenburg/Rostock). In the RDP for West Mecklenburg there is no explicit information about either service levels 4 and 5 or tourism transport services. Mobility services for service level 5 (community/intermodal transport, community bus/community transport service, etc.) are not mentioned in any of the RDPs.
- Demand-responsive transport or hailed share taxis and on-call buses are explicitly mentioned in all justifications; only in the RDP for Vorpommern are community buses also mentioned. The RDPs for West Mecklenburg and the Mecklenburg Lake District also refer to tourism boat and bus transport.
- Mobility services for service level 5 (community/intermodal transport, community bus/community transport service, etc.) are not mentioned in the definitions/principles nor in the justifications with one exception.
- Statements in the regional development programs on the subject of 'Local public transport at service levels 4 and 5 and tourism transport services' are in keeping with the state regional development program and the integrated state transport plan.
- A summary evaluation is given in **CHAPTER 3.6**; a detailed tabular presentation of the evaluation is included in **APPENDIX 10.4**.

## 3.4 Integrated rural and regional development concepts of the districts and regions

→ **TABLE 7** provides an overview of the eight integrated rural and regional development concepts (IRDC/RDC) analysed with the focus on 'Local public transport/mobility'.

**TABLE 7.** Overview of the development concepts analysed

| DISTRICT/REGION | CONCEPT | CREATION/PROCESSING | YEAR |
|---|---|---|---|
| Ludwigslust-Parchim | IRDC | DSK, WIMES Wirtschaftsinstitut | 2016 |
| Northwest Mecklenburg | IRDC | DSK, WIMES Wirtschaftsinstitut | 2016 |
| Rostock/Region Rostock North | IRDC | District, wimes, Schule der Landentwicklung | 2017 |
| Rostock/Region Rostock South | IRDC | District, wimes, Schule der Landentwicklung | 2017 |
| Vorpommern-Greifswald | IRDC | BTE, UmweltPlan | 2016 |
| North Vorpommern region | IRDC | curch wagner, vortex green technologies | 2017 |
| Island of Rügen | IRDC | curch wagner, vortex green technologies | 2017 |
| Mecklenburg Lake District | RDC | complan | 2017 |

→ The development concepts always include information about local public transport/mobility, but rarely transport that is directly associated with tourism, in general principles, developmental and horizontal objectives, areas of activity and/or lead projects, approaches/measures and subgoals.
→ Statements in the development concepts on the subject of local public transport/mobility are in keeping with the state regional development program and the integrated state transport plan.
→ A summary evaluation is given in **CHAPTER 3.6**; a detailed tabular presentation of the evaluation is included in **APPENDIX 10.4**.

## 3.5 Regional local transport plans of the districts and planning regions

→ **TABLE 8** provides an overview of the local transport plans (LTP) analysed with the focus on 'Local public transport/mobility/alternative, flexible, community services/tourism'.

**TABLE 8.** Overview of the local transport plans analysed

| LOCAL TRANSPORT PLAN | YEAR |
|---|---|
| Regional local transport plan for Central Mecklenburg/Rostock Part A: Regional part | 2005 |
| Regional local transport plan for Central Mecklenburg/Rostock Part C Local transport plan for the district of Bad Doberan | 2005 |

| LOCAL TRANSPORT PLAN | YEAR |
|---|---|
| Regional local transport plan for Central Mecklenburg/Rostock Part D: Local transport plan for the district of Güstrow | 2005 |
| Local transport plan for the district of Vorpommern-Rügen 2014–2019 | 2013 |
| Regional local transport plan for West Mecklenburg Part A: Regional part | 2014 |
| Regional local transport plan for West Mecklenburg Part B: District Ludwigslust-Parchim | 2014 |
| Regional local transport plan for West Mecklenburg Part C: Regional Planning Association for West Mecklenburg | 2015 |
| Local transport plan for the other local public transport services of the Mecklenburg Lake District 2016–2020 | 2016 |
| Local transport plan 2017–2027 for the district of Vorpommern-Greifswald and the University and Hanseatic City of Greifswald | 2017 |

- All local transport plans include services such as scheduled taxis, hailed share taxis, on-call buses, among others; however, no statement is made about their quantitative prevalence.
- Existing community bus services are not included in any local transport plan.
- A car sharing service is only documented for Greifswald and tourism transport services are only explicitly documented on Lake Müritz.
- The most innovative service concept in regard to tourism, alternative, intermodal and community mobility services is in the local transport plan for Vorpommern-Greifswald.
- Concrete planning of measures is only specified in the 15-year-old local transport plans of Bad Doberan and Güstrow, which must now be well and truly outdated. Otherwise, the plans contain only general requirements and references to (implementation) concepts.
- It is worth mentioning that the LTP for Vorpommern-Greifswald contains demands that the state government adapt the municipal charges act to finance tourism transport services using spa and tourism levies even outside recognised spa and health resorts as well as the demand to create a guideline and funding arrangement for community buses.
- A summary evaluation is given in **CHAPTER 3.6**; a detailed tabular presentation of the evaluation is included in **APPENDIX 10.5**.

## 3.6 Summary evaluation

- The **state regional development program** for Mecklenburg-Vorpommern, the four **regional development programs** and the **integrated rural and regional development concepts** of the districts/regions, do not include any concrete information about 'Local public transport service levels 4 and 5 and tourism transport services' because of their transregional character. In almost all programs and concepts, demand-responsive types of services are embedded or discussed in the definitions/principles, developmental objectives, areas of activity and/or lead projects. That the **regional development programs** contain virtually no statements about service level 5 must be attributed to the fact that they were prepared in 2010 or 2011 when these services were not yet comprehensively established.

- The **integrated state transport plan** for Mecklenburg-Vorpommern describes in its synopsis a plan with the most far-reaching and broad time horizon but cannot by its very nature identify any concrete local or regional mobility deficits. The integrated state transport plan is consistent with a local public transport strategy that could be put into practice, particularly for local public transport service levels 4 and 5, using a suggested implementation strategy (see also **CHAPTER 6.3.1**).
- The **local transport plans** of the districts, with the exception of the LTP for Rostock and Bad Doberan (both 2005), surprisingly do not specify any concrete local or regional mobility deficits. Each of the service concepts without exception also take into account the introduction of flexible modes of transport (on-call bus, hailed share taxi, community bus) and in part the introduction of tourism transport services.

# 4 Analysis of the mobility services

This chapter contains the investigation of the 15 mobility services in the rural regions of Mecklenburg-Vorpommern as described in the statement of the task.

## 4.1 Methodology

- Preparation of all 15 mobility services (see **TABLE 3**) using desktop research in the form of descriptive profiles in order to obtain an understanding of the services (function, fares, operating times, operational model, passengers/acceptance, special features, etc.) (for profiles, see **APPENDIX 10.1**).
- Completion of eight expert interviews for selected mobility services to obtain information about their origin, practical experiences and requests to the state of Mecklenburg-Vorpommern.
- Dr Christian Mehlert, KCW, conducted the expert discussions in person and, because of the coronavirus pandemic, in some cases by telephone in February/March 2020.
- The selection criteria for the expert interviews or mobility services in agreement with the Energy Ministry:
  - 'in operation' for at least two years
  - campaign or innovative in character
- The eight discussions are presented in the following chapters; they are summarised in **CHAPTER 4.10**.
- The current service areas of the on-call bus systems, community buses and community transport services are shown in the map in **APPENDIX 10.2**.

## 4.2 Timetable-based on-call bus, Ludwigslust-Parchim district

- Discussion/location/participants
  - Personal discussion on 19.02.2020 in Ludwigslust
  - Gundolf Landsberg/Detlef Boye, both from Ludwigslust-Parchim district
  - Stefan Lösel, Verkehrsgesellschaft Ludwigslust-Parchim mbH (VLP)
- Origin
  - Stefan Lösel was the managing director of NAHBUS GmbH in the district of Northwest Mecklenburg until late 2015 and was responsible there for

the design and implementation of a timetable-free on-call bus system (see **CHAPTER 4.7**).

- With the reappointment of VLP management, the vision of Stefan Lösel for a demand-responsive local public transport concept was in agreement with the transport policy vision of the district administrator at the time, Rolf Christiansen. This led to the appointment of Stefan Lösel as Managing Director at VLP and gradual, flexible implementation of an on-call bus service, primarily with a feeder bus function for railway stations.

- Experiences
  - The model had not been transferred to other districts to date because of the complexity associated with revision and implementation of a new local public transport concept and the additional financial costs for operation of the on-call bus.
  - The on-call bus does not cause a shift from car traffic to public transport but is instead a social measure to safeguard mobility in the rural region.
  - The on-call bus must be (able to be) integrated into the digital local public transport information systems; for this reason, in the Ludwigslust-Parchim district a timetable-based on-call bus concept was implemented rather than a timetable-free concept.
- Requests to the state of Mecklenburg-Vorpommern
  - Increase in the funding amounts (above the current maximum of €153,388 incl. VAT for consulting, material and operating costs per measure over three years) according to the directive assuring contributions for alternative modes of transport in local public transport in the state of Mecklenburg-Vorpommern (AltBedFRL) dated 05.01.2000; in addition, conversion of funding of the primary operating costs to funding of the conversion costs from a scheduled to an on-call bus operation.
  - Founding of a state-wide fare or transport association.

## 4.3 Bürger-Aktiv-Mobil Balow, Ludwigslust-Parchim district

- Discussion/location/participants
  - Personal discussion on 19.02.2020 in Balow
  - Kriemhild Kant, Mayor of Balow
  - Birgit Mahnke, representative of the association 'Village Meeting Place'
- Origin
  - Inspiration from timetable-based community buses in North Rhine-Westphalia where community bus associations with volunteers operate the services using minibuses purchased specifically for this purpose with a maximum of eight passenger seats plus driver's seat. The drivers may transport commercial passengers with a class B driver's licence together with a passenger transport licence.
  - Due to the low number of residents in the Balow municipality of approximately 330 people, the NRW community bus approach was modified to an 'on-demand community transport service'.
- Experiences
  - Vehicle operation may be economically viable with passenger fares, association fees and vehicle renting fees because the purchase of the vehicles (€35,000) was paid for largely with LEADER funds (€28,000).
  - Problems with the taxation classification of the Citizen-Active-Mobile and its support by the responsible tax authority
- Requests to the state for funding of the mobility services
  - Improvement of the tax-related treatment and support of (non-profit) associations

- Financing of the traffic safety training of the volunteer drivers by transport businesses VLP, ADAC, DEKRA and the like

## 4.4 Bürgermobil Banzkow, Ludwigslust-Parchim district

- Date/location/participants
  - Personal discussion on 19.02.2020 in Banzkow
  - Reiner Kluth, Bürgermobil association chair
  - Fred Blumberg, dispatcher at Bürgermobil
- Origin
  - As a result of contacts with Bürger-Aktiv-Mobil Balow (see **CHAPTER 4.3**), the idea arose of offering a similar community transport service in the Banzkow municipality.
- Experiences
  - Bürgermobil replaces lost infrastructure; used primarily for shopping and medical appointments but there is barely any demand for trips to authorities.
  - Personnel office with LEADER funding greatly simplified the preparation and introduction of Bürgermobil
  - Income covers running operating costs (without purchase/write-off of vehicle)
  - Word-of-mouth recommendations are the best advertising
- Requests to the state of Mecklenburg-Vorpommern
  - Start-up funding for the purchase of the vehicle
  - Support with taxation issues

## 4.5 Bürgerbus ELLI, Mecklenburg Lake District

- Discussion/location/participants
  - Personal discussion on 21.02.2020 in Wismar
  - Prof. Udo Onnen-Weber, KOMOB
- Origin
  - The ELLI initiators were aware of the community buses/transport services in Balow and Banzkow (see **CHAPTERS 4.3** and **4.4**) and the ILSE bus (see **CHAPTER 4.8**). ELLI was originally derived from the 'Elde routes' and stood for 'e(lectric) routes' with the introduction of an electric minibus. In the meantime, ELLI has become a term in its own right.
  - Phase 1: ELLI started in 2017 along the MVVG routes with a timetable on alternating days of operation as a feeder bus on the main bus route to Röbel (and back) with local public transport fares using volunteer drivers and fell under the responsibility of KOMOB.
  - Phase 2: ELLI runs as a subcontractor of MVVG in a timetable-free flexible service without a fixed route in the Röbel administrative district with local public transport fares with 3 vehicles and 6 drivers; operation falls under the responsibility of KOMOB and support is provided in part by municipalities.
  - Phase 3: In late 2019 the Röbel administrative district withdrew from the ELLI project. The Elde-Quellgebiet e. V. community bus association (members now three mayors, drivers, citizens, KOMOB) has since operated ELLI with one vehicle; change from local public transport fares to voluntary donations; co-financing by sponsors and district business development funds; planning: operation of three vehicles from April 2020.

- Experiences
  - Operation as a community bus on MVVG routes with a timetable with the local public transport fares was too expensive for the passengers and changing between community bus/scheduled bus was too difficult.
  - Lack of willingness of some municipalities to take over the responsibility and financing of the ELLI project
  - Financing model 'District/municipality/sponsors plus donations from passengers' covers operating costs (except for the purchase of vehicles)
- Requests to the state of Mecklenburg-Vorpommern
  - Increased flexibility of the Passenger Transport Act for on-demand services as well as abolishing protectionism for the taxi industry
  - Greater flexibility for local public transport financing in Mecklenburg-Vorpommern (e. g. local public transport funds also to finance volunteer community transport services)
  - State-wide linking of community transport services and creation of a community bus guideline incl. funding program
  - Recognition of the non-profit status of 'community transport associations'

## 4.6 Community bus Poppendorf, Rostock district

- Discussion/location/participants
  - Personal discussion on 21.02.2020 in Bentwisch
  - Jörg Wallis, Mayor of Poppendorf
- Origin
  - Improvement in the poor local public transport service using conventional hailed share taxi transport would have generated costs of €55,000/year for the municipalities.
  - Volunteer-based services such as Bürger-Aktiv-Mobil in Balow and the community bus in Banzkow (see **CHAPTERS 4.3** and **4.4**) were known and were the impetus for the Poppendorf community bus.
- Experiences
  - Initially, acceptance was very reserved; a slow increase in passenger income is now observed; word-of-mouth recommendation is in principle successful and adequate.
  - Waiting time for shopping/medical trips to Rostock: What does the volunteer driver do in the 1.5 hour waiting time on site?
  - Difficulties in acquiring volunteer drivers
  - Financing by three municipalities (each €2000/year), association memberships and passenger fares are sufficient to cover running operating costs.
- Requests to the state of Mecklenburg-Vorpommern
  - Funding of electric minibuses because although they are more expensive to purchase, their upkeep is easier.
  - Recognition of the non-profit status of the community bus association for the purpose of tax exemption
  - Formation of a network to exchange experiences

## 4.7 Timetable-free on-call bus, Northwest Mecklenburg district

- Discussion/location/participants
  - Telephone discussion on 30.01.2020 in Grevesmühlen/Berlin
  - Tino Waldraff, Northwest Mecklenburg district
  - Jörg Lettau, NAHBUS GmbH

- Origin
  - The local public transport service, comprising the three service modules coordinated bus, school bus and timetable-free on-call bus, had already been redesigned under the aegis of the former NAHBUS managing director Stefan Lösel (see also **CHAPTER 4.2**).
  - In Northwest Mecklenburg the on-call bus operates primarily as a coordinated feeder bus without a timetable and on a small scale because of the denser rail and coordinated bus network compared to the Ludwigslust-Parchim district.
- Experiences
  - On-call bus services are run exclusively by various taxi companies; the passenger demand depends on the dedication of the particular company (friendliness, reliability, etc.) as well as the particular coordinated bus service (at one – or two-hour intervals).
  - If regular bookings are placed for individual on-call bus routes they are converted from demand-responsive to scheduled operation.
  - On-call buses are good supplements to the scheduled bus service but must be integrated into the local public transport system; the coordinated bus network remains the heart of the local public transport service.
  - The (telephone) booking of the on-call bus is an access barrier, particularly for older passengers ('The bus then comes just for me?!'); the development of a journey planner app with integrated on-call bus booking function would help to lower this barrier.
- Requests to the state of Mecklenburg-Vorpommern
  - Funding of accessible minibuses, if necessary, with alternative drive systems
  - Funding of the qualification of, e.g., municipality employees as 'semi-professional' on-call bus drivers with the acquisition of a passenger transport licence
  - Provision of **one** state-wide mobility app (rail, bus, on-call bus, electric scooters, etc.) incl. fare information, booking and payment function
  - Creation of a local public transport strategy across all modes of transport for the state of Mecklenburg-Vorpommern

## 4.8 ILSE on-call bus, Vorpommern-Greifswald district

- Discussion/location/participants
  - Telephone discussion on 30.03.2020 in Torgelow/Berlin
  - Birgit Klemer, Verkehrsgesellschaft Vorpommern-Greifswald mbH (VVG)
- Origin
  - As part of the pilot project 'Long-term securing of supply and mobility in rural regions' (2016–2019) financed by the Federal Ministry of Transport and Digital Infrastructure, the project 'Integrated Greifswald control centre for emergency rescue, medical transport and local public transport' was carried out. This essentially entailed the development and implementation of the ILSE bus. At the heart of the project is the combination of patient transport and on-call bus journeys, that is, simultaneous transport of patients with no indication for medical support and standard passengers for a local public transport fare in a single vehicle.
  - Due to the unsatisfactory body of data for patient transport services provided by statutory health insurance funds in general and a lack of existing potential of patient journeys that could be combined in the pilot region Peenetal/Loitz in particular, the ILSE bus was realised in its form as a timetable-free on-call bus from stop-to-stop, also to the passenger's door upon payment of a comfort surcharge.

- Experiences
  - On the basis of the good collaboration between the transport association, the local taxi company and the State Office for Road Construction and Traffic in Mecklenburg-Vorpommern as the responsible licensing authority, the service was licensed as scheduled transport in accordance with section 42 combined with section 2 paragraph 6 of the Passenger Transport Act (PBefG).
  - The ILSE bus attracted a great deal of attention in municipal and state policy as well as broad acceptance in the population and among passengers.
  - After a year, dropping passengers off in front of their homes was offered upon payment of a service fee at the request of the passengers.
  - The ILSE concept was transferred to permanent operation in the Peenetal-Loitz administrative district once the pilot operation had ceased and expanded to the neighbouring administrative district Jarmen/Tutow.
- Requests to the state of Mecklenburg-Vorpommern
  - Investment funding for minibuses in local public transport

## 4.9 Transport service Wittenhagen, Vorpommern-Rügen district

- Discussion/location/participants
  - Telephone discussion on 31.03.2020 in Wittenhagen/Berlin
  - Frederic Beeskow, Ambulanter Pflegedienst Beeskow GmbH
- Origin
  - Frederic Beeskow is the managing director of the outpatient nursing service and honorary mayor in Wittenhagen.
  - He developed the idea of using the minibuses outside their original use of transporting passengers for outpatient day nursing care to improve mobility in the rural region; implementation as part of the Federal funding program 'Land(auf)schwung'.
- Experiences
  - Passengers converge independently in Grimmen for visits to medical consultants.
  - Associations use the vehicle heavily on the weekend, which, as expected, leads to greater wear (incl. minor accidents).
  - The transport service also offers a legal alternative to the illegal 'black taxi trips' that were provided by unemployed or Hartz IV recipients with private vehicles.
  - The transport service provides an option for people in nursing care level 1 to use their tax credits to make daily life easier (€125/month exclusively for services); the nursing service also offers direct invoicing with the social insurance agencies.
  - The transport service leads to better utilisation of personnel in the outpatient nursing service (filling the slow time between morning and afternoon peak) and employment opportunities for the marginally employed, e. g., pensioners.
  - There are only rarely true mobility problems in rural areas because family or neighbours help in times of need.
  - Too many research projects that are initially highly praised and are buried again once the funding period ends.
- Requests to the state of Mecklenburg-Vorpommern
  - New mobility projects should prioritise companies with transferable business models and existing equipment (e.g. vehicles) instead of funding and expanding uneconomic parallel structures.
  - Funding program only for mobility projects that can provide substantiated evidence of their (economic) survival once the funding period has come to an end.

- Installation of an 'ideas coach' at state level who supports the design of mobility services and the preparation of funding proposals on site.

## 4.10 Summary

- Repeated mentions of the same experiences and requests point in the following directions, even if the small number of expert interviews (n=8) means that the validity may have to be qualified:
  - Conversion of the financing instruments based on regional rail transport and local public transport services to financing of mobility services and infrastructure of all types (regional rail transport, local public transport, community bus/transport service, driver qualification of volunteers or those with side jobs)
  - Funding of (accessible) minibuses, if necessary, with alternative types of drive systems
  - Establishment of a community transport service network for mutual sharing of information
  - Establishment of a mobility 'ideas coach' at state level to provide advice in the design and implementation of local mobility services
  - State-wide uniform information along the entire journey including sales, booking and paying of mobility services of all types
  - Federal initiative of the state of Mecklenburg-Vorpommern to simplify the tax treatment of community bus associations, particularly allowing non-profit status

# 5 Description of best-practice examples to improve mobility in the rural region

In this chapter 'good examples' from across Germany and from Mecklenburg-Vorpommern are listed that help to improve mobility in the rural region.

## 5.1 Selection criteria

- Description of other suitable real-life examples to improve mobility in the rural German-speaking region based on the following selection criteria:
  - Service for the rural region
  - If applicable, of tourism nature
  - Transferability to Mecklenburg-Vorpommern or other regions within the state
- The selection is not exhaustive but rather highlights different starting points to support mobility services in the rural regions in Mecklenburg-Vorpommern.

## 5.2 Car sharing in rural regions

- **Car sharing** is defined as the sharing of a car with people from outside a person's household. As part of the application, customers sign a framework agreement

with the commercial car sharing provider. In addition, there is also private car sharing (peer-to-peer) in the neighbourhood or on internet platforms (e. g. Drivy/ getaround) and commercial car hire (e.g. Sixt, Europcar) in which an individual contract is signed upon hiring. There are the fundamental variants of stationary and free-floating car sharing. In rural regions only stationary car sharing makes sense in which the customer starts and ends their journey at the same point.

- In Schleswig-Holstein there is a coordinating body '**Dörpsmobil SH**' that provides information to interested municipalities, associations and initiatives and support during the planning and establishment of communal cars. In 2020 the body published a revised planning guideline for (electric) car sharing in rural regions (https://www.doerpsmobil-sh.de/koordinierungsstelle/downloads) and also maintains a network of local Dörpsmobil sponsoring organisations in Schleswig-Holstein for the purpose of providing information and sharing experiences and offers a statewide uniform software and hardware solution for booking and invoicing.
- **E-WALD** GmbH in the Bavarian Forest is Germany's largest system provider for electromobility and charging infrastructure. E-Wald focuses on an electric car sharing service that combines environmentally-friendly electric cars and energy derived from renewable resources; the electric cars are available for hire at (charging) stations for a minimum booking time of one hour. (https://e-wald.eu/fahren/)
- The Swiss **Mobility** Genossenschaft provides car sharing services in all communes across Switzerland that have more than 10,000 residents. Mobility Genossenschaft provides the vehicles as a payment-based environmental and economic alternative to private car ownership and thus contributes to the sustainable development of environmentally responsible forms of mobility. (https://www.mobility.ch)

## 5.3 Non-commercial ride sharing apps[1]

- Among the non-commercial ride sharing apps, trips are understood to be private persons offering third parties ride-sharing opportunities using a smartphone app for which no fee or only a small fee is payable and therefore does not involve commercial passenger transport. The trip would have been made by the driver without the ride-share passenger travelling with them (differentiation from the UberPop business model in which private persons transport third parties with a private vehicle upon payment of a fee without a passenger transport licence – this is forbidden in Germany!).
- **BlaBlaCar** is a non-commercial ride-sharing app from a passenger transport law perspective; the business model of this international online ride share agency is based on weekly or monthly packages that cost four or six euros respectively that are purchased by the ride sharers, enabling them to book unlimited rides. For every ride share the driver is paid a small fee to cover travel costs by the ride sharer while the service is free of charge for those offering rides. The success of BlaBlaCar lies in the usually long trips ('long-distance travel'). (www.blablacar.de)
- As part of the pilot project 'Long-term securing of supply and mobility in rural regions' of the Federal Ministry of Transport and Digital Infrastructure (BMVI), the **ILSE** (2016–2019) pilot project in the district of Vorpommern-Greifswald developed a concept of '**ILSE ride sharers**' in which outpatient nursing services, social transport services and the like provided non-commercial transport for third parties through a scheduling platform. As part of the pilot project it was not implemented

1 Because of their prominence, the following must be noted: The projects 'Mobilfalt' in Northern Hesse (www.mobilfalt.de) and 'Garantiert mobil!' in South Hesse (www.odenwaldmobil.de/nahverkehr/garantiert-mobil/) are not listed here as best practice because, while they are interesting from the perspective of their conceptual approach, they have not been successful in practice (low passenger acceptance).

for time reasons (http://www.modellvorhaben-versorgung-mobilitaet.de/fileadmin/files/dokumente/Regionsdossiers___Webversionen/Regionsdossier_VG_Web.pdf)

## 5.4 Regular bus service in tourism hotspots

- On the '**spa route**' on the east coast of **Rügen** and from there to Bergen, the buses travel uniformly at 20-minute intervals and every third bus has a bicycle rack; the use of the bus service is free of charge for guests staying overnight in the Mönchgut-Granitz jurisdiction throughout the year (the timetable is reduced for the low season). The spa management purchases the transport licences from the VVR and incorporates this into the spa tax as a contribution; the model was adopted by **Binz** and **Dierhagen/Ribnitz-Damgarten**.
- In Binz, Sellin and Göhren, there are independent local bus services. The services that go beyond the local transport plan standard are financed by the three municipalities and commissioned by the district of Vorpommern-Rügen as the independent local public transport commissioning authority as part of the public service contract for the Vorpommern-Rügen transport operator.
- The service '**MÜRITZ rundum**' (mobile without a car using guest tickets and the national park ticket) is aimed at overnight guests and day visitors in the Müritz area. In the high season from 1 April to 31 October, overnight guests can use buses free of charge using their guest ticket as well as the boats of the White Fleet on Lake Müritz for a reduced fare; the same benefits apply for day visitors when they purchase a national park ticket. The service is financed by fare adjustments via the spa tax from the four certified partner locations Klink, Rechlin, Röbel/M and Waren (M) with a net 39 cents per overnight stay. The service is a collaboration between the partner locations, the Mecklenburg-Vorpommersche Verkehrsgesellschaft mbH (the transport association for Mecklenburg-Vorpommern, MVVG), the Müritz National Park and the tourism association for the Mecklenburg lake district, Tourismusverband Mecklenburgische Seenplatte e. V., which coordinates the collaboration. (https://www.mueritz-rundum.de/mueritz-rundum-mobil-ohne-auto)

## 5.5 State-wide or transregional call centre for on-call bus scheduling and app ride shares

- The local transport service for Saxony-Anhalt, Nahverkehrsservice Sachsen-Anhalt (NASA), offers not just state-wide timetable and fare information via its **INSA call centre**, it also enables customers to book on-call bus and hailed share taxi journeys from 4:00 am to midnight; INSA is maintained by Omniphon GmbH in Leipzig (https://www.nasa.de/insa/; https://www.omniphon.de/)
- **O-TON Call Center Services GmbH** in Dortmund is a nationally active call centre for mobility and transport, which alongside a local public transport service hotline for NRW 'Die schlaue Nummer' (the smart number), also provides a national booking and journey request service for local hailed share taxis and taxibus services for taxi, hire car and bus companies. (https://www.mobil.nrw/service/schlaue-nummer.html)
- **Transdev-Kundenservice**, which is part of the Transdev Group, is located in Neubrandenburg and offers its services throughout Germany, including timetable and fare information, handling passenger rights and customer guarantees or the booking and scheduling of demand-responsive transport within and outside the Group.
- In the **ILSE** BMVI pilot project in the district of Vorpommern-Greifswald and the state pilot project 'Innovative local public transport in rural areas' in the district of Calw, Baden-Württemberg, concepts were developed for call centre solutions

with app ride shares but these have not been implemented to date; integration into on-call bus call centres is sensible.

## 5.6 Innovative mobility apps

- **Wohin-du-willst** is a mobility app from Deutsche Bahn for rural regions. All public transport services, including share taxis and on-call buses, are bundled on the platform; districts have the option of tailoring the app to their region. When installing the app the user selects the desired location/district. The app positions itself primarily as a planning aid for routine trips: Frequently used routes and connections can be saved, timetables are available offline, push notifications remind users of a trip or provide real-time information about disruptions. Core functionalities: Mobility planner for rural regions. (www.wohin-du-willst.de)
- **Jelbi** is the MaaS (mobility as a service) platform of the Berliner Verkehrsbetriebe (Berlin public transport services, BVG) for bundling mobility services and sharing services; service also in Munich; winner of the German Mobility Prize 2019. The app integrates various services (bus, rail, scooters, bicycles, cars, ride sharing, taxi) and is a booking and payment platform. The app was developed by the start-up Trafi. Core functionalities: Bundling, integration. (www.jelbi.de)
- **Fairtiq** is a Swiss app that acts as a digital sales channel for the Swiss public transport sector under the project brand 'ÖV Ticket 2020'. The customer only has to be active when checking in and out by clicking on a central button on the screen. Using the assisted check-out, operating errors (forgotten check-out) are massively reduced. Core functionalities: User friendliness, combination of fare systems. (www.fairtiq.com)
- **Whim** is a commercial platform that facilitates access to public and private means of transport. The customer chooses between 'pay-as-you-go' and a fixed monthly price (which depends on the service level). The app uses artificial intelligence and user data to optimise the service. Core functionality: Flat-rate mobility (for fixed price). (www.whimapp.com)

## 5.7 Mobility managers at transregional or state level

- Lower Saxony has established a unit for **mobility management** in the Landesnahverkehrsgesellschaft Niedersachen mbH (LNVG), the state local public transport association. Its tasks consist of providing support, information and advice to local public transport authorities (districts, autonomous cities) as well as municipalities and initiatives, particularly with the planning and implementation of innovative mobility services in rural regions. (www.lnvg.de/mobilitaet)
- Verkehrsgesellschaft Nord-Ost-Niedersachsen (VNO), a local public transport authority for eight districts located in Stade, has a **staff position for mobility advice** with a focus on flexible forms of transport (hailed share taxis, community buses). Interested municipalities and citizen initiatives can access free support for the planning and implementation of hailed share taxi and community bus services. (https://www.vno-stade.de)
- Nahverkehrsgesellschaft Baden-Württemberg (NVBW), the local public transport authority for Baden-Württemberg, has an **expert centre for new forms of local public transport**. Its tasks are to provide a central consultation service for on-call and community buses and the local and transregional networking by organising mobility-specific forums, strategy development, and research and development activities. (https://www.nvbw.de/aufgaben/neue-oepnv-angebotsformen/kompetenzzentrum-neuer-oepnv/)

## 5.8 Summary

- The best practice examples listed here originate from the areas of:
  - Car sharing in rural regions
  - Non-commercial ride sharing apps
  - Regular bus service in tourism hotspots
  - State-wide or transregional call centre for on-call bus scheduling and app ride shares
  - Innovative mobility apps
  - Mobility managers at transregional or state level
- The approaches described in the examples find their way into the list of measures to promote local mobility services (see **CHAPTER 6**).

# 6 List of measures to promote local mobility services

- This chapter presents measures that aim to promote local mobility services in the rural regions of Mecklenburg-Vorpommern.
- All measures can also be implemented individually as well as at the same time or sequentially.

## 6.1 Derivation and structure

- Derivation of the list of measures incorporating the expert knowledge from the Energy Ministry and KCW based on the above preparatory work that was carried out
  - Analysis of programs, concepts and plans at the state, regional and district level (see **CHAPTER 3**)
  - Analysis of the mobility services (see **CHAPTER 4**)
  - Best-practice examples to improve mobility (see **CHAPTER 5**)
- Division of the list into three groups of measures
  - Measures related to ‘Policy/Administration’ with no need for financing (e.g. Bundesrat initiative to recognise the non-profit status of community bus associations)
  - Measures related to ‘Expert reports’ with one-off financing requirements (e.g. preparation of a state-wide local public transport strategy)
  - Measures related to ‘Promoting mobility services’ with ongoing financing requirements (e.g. investment incentives for minibuses)
- In isolated cases the different groups of measures may overlap; what is critical for the classification is whether there are no financing requirements or if they are one-off or ongoing.

## 6.2 Measures related to 'Policy/Administration' with no financing requirements

### 6.2.1 BUNDESRAT INITIATIVE IN SUPPORT OF COMMUNITY ENGAGEMENT IN LOCAL MOBILITY[2]

- Bundesrat initiative to change the tax code, which among other things definitively regulates the prerequisites for recognition of non-profit status
- Suggestion: Supplement section 52 paragraph 2 of the German Fiscal Code with item 25 'Promotion of community engagement to support local mobility'

### 6.2.2 STATE INITIATIVE TO SUPPORT THE USE OF SPA AND TOURIST LEVIES FOR LOCAL MOBILITY SERVICES

- State initiative to change the municipal tax law for Mecklenburg-Vorpommern (KAG M-V), which also regulates the collection and use of spa and tourism levies[3]
- Suggestion: Supplement to section 11 of KAG M-V so that municipalities or parts of municipalities that are not recognised as spas or health resorts may also collect spa and tourism levies to support local mobility services if these services can be used free of charge or at reduced cost.

### 6.2.3 AGREEMENT OF THE FINANCE MINISTRY TO THE TAX-RELATED TREATMENT OF COMMUNITY BUS ASSOCIATIONS

- Agreement within the state finance ministry to harmonise the tax-related treatment of associations that pursue a goal of improved local mobility, for example, in the form of community buses and car or ride sharing.

## 6.3 Measures related to 'Expert reports' with one-off financing requirements

### 6.3.1 SPECIFICATION OF THE FURTHER IMPLEMENTATION OF SERVICE LEVELS 4 AND 5 OF THE INTEGRATED STATE TRANSPORT PLAN

- Specification of the further implementation of service levels 4 and 5 of the integrated state transport plan for state-wide scaling with a time horizon to 2030; this includes a strategic measure implementation timeline ('Which measure will be disseminated to what degree by when or implemented by/with whom?'). The focus is on service levels 4 (on-call bus, hailed share taxi etc.) and 5 (community/intermodal transport, community bus/community transport service, etc.) of the integrated local public transport plan. The implementation strategy will above all create incentives to close the gaps in responsibilities/authorities at service level 5 by activating initiatives, associations and districts and should be incorporated into the establishment and updating of local transport plans.
- Budget approx. €25,000–35,000 (gross)

2 This measure does not create any expenses for the state of Mecklenburg-Vorpommern; the tax deficits (e.g. corporate tax) are estimated as negligible.

3 See also the local transport plan 2017–2027 for the district of Vorpommern-Greifswald and the University and Hanseatic City of Greifswald, page 222

### 6.3.2 COMMUNITY BUS GUIDELINE FOR MECKLENBURG-VORPOMMERN

- Preparation of a community bus guideline that provides interested initiatives and municipalities with general essential information and concrete instructions for the design, planning and implementation of community bus services[4].
- Budget approx. €30,000–40,000 (gross)

## 6.4 Measures related to 'Promoting mobility services' with ongoing financing requirements

In this chapter measures are listed that not only have a one-off financing requirement but are associated with ongoing operating costs beyond the initial investment. The financing requirement for these mobility services is calculated in **CHAPTER 7**.

### 6.4.1 TIMETABLE-BASED ON-CALL BUS

- Demand-responsive local public transport service with timetable and route linking
- Replacement for and feeder and/or supplement to regular bus services
- Responsibility/planning by the authorities in the local transport plans
- Operation by transport companies, where applicable, in cooperation with the taxi and hire car industry
- All districts in rural regions form potential areas of use for timetable-based on-call buses

### 6.4.2 TIMETABLE-FREE ON-CALL BUS

- Demand-responsive local public transport service with no timetable or route linking
- Replacement for and feeder and/or supplement to regular bus services
- Responsibility/planning by the authorities (in the local transport plans)
- Operation by transport companies, where applicable, in cooperation with the taxi and hire car industry
- All districts in rural regions as well as small and medium-sized towns form potential areas of use for timetable-free on-call buses

### 6.4.3 COMMUNITY BUS

- Minibus transport with volunteer drivers
- Feeder bus and supplement to regular bus service
- Service with fixed travel times/routes/days as a supplement to local public transport
- In part also a mixed format with community transport service
- Responsibility, organisation and operation by local initiatives, associations, municipalities, etc.
- Only possible if there are citizens on site who want to commit!
- All districts in rural regions as well as small and medium-sized towns form potential areas of use of community buses (and community transport services)

### 6.4.4 COMMUNITY TRANSPORT SERVICE

- Minibus transport with volunteer drivers
- Feeder bus and supplement to regular bus service

4 See also the local transport plan 2017–2027 for the district Vorpommern-Greifswald and the University and Hanseatic City of Greifswald, page 138/139

- Service with fixed travel times/routes/days as a supplement to local public transport
- In part also a mixed format with community bus
- Responsibility, organisation and operation by local initiatives, associations, municipalities, etc.
- Only possible if there are citizens on site who want to commit!
- All districts in rural regions form potential areas of use for community transport services (and community buses)

### 6.4.5 CAR SHARING IN THE CENTRAL TOWNS IN RURAL REGIONS

- Support for car sharing in the central towns in rural regions in which otherwise there is no private sector car-sharing service or none will emerge
- Responsibility of and organisation by the towns
- (Co-)financing of car-sharing vehicles that are purchased by municipalities, associations and the like and operated autonomously
- (Co-)financing of the car-sharing operation if municipalities want to contract out car-sharing services to a commercial car-sharing provider
- The central towns in the rural regions (Greifswald, Neubrandenburg, Stralsund, Wismar) are potential areas of use for car sharing

### 6.4.6 SCHEDULING SYSTEM

- Scheduling system for the state-wide booking, scheduling and payment of demand-responsive mobility services (on-call bus / hailed share taxi, demand-responsive community buses, private car sharing / ride sharing)
- System must be networked with the state-wide and regional timetable information systems of the transport companies and the transport authority of Mecklenburg-Vorpommern and provide information as well as enable booking and payment from the system.
- Booking options by app, internet and telephone (= call centre)

### 6.4.7 CALL CENTRE FOR ON-CALL BUS BOOKING AND FOR MOBILITY INFORMATION

- Telephone on-call bus booking also outside the opening hours of the booking centres of the transport companies, e.g. in the evenings or on weekends
- Information about regional rail transport, local public transport and other mobility services (car sharing, bike sharing, ride sharing, etc.)
- Organisation at transregional or state level
- Awarding of the contract to a private call centre

### 6.4.8 MOBILITY MANAGER[5]

- Establishment of a 'mobility manager office' with a scope of up to two staff positions at state level
- Organisational alternatives: Awarding of a framework agreement for mobility management to a private consulting company
- Central contact person for authorities, municipalities, associations, initiatives, etc. on the subject of 'Mobility in rural regions'
- Advice and support on site for on-call bus, hailed share taxi, community bus, sharing services and the like regarding the design, planning, implementation, approval, funding, etc.

5 'Establishment of a state expert centre for mobility' is also a requirement of the Enquete Commission 'Ageing in Mecklenburg-Vorpommern' in the 6th election period 2011–2016 (EK Ageing 2016, page 100)

# 7 Quantity-cost calculation for state-wide scaling of the mobility services

## 7.1 Methodology

- Estimate of the financing requirement for state-wide scaling of the mobility services using a quantity-cost calculation
- Carrying out the quantity-cost calculation in several steps
- Allocation of suitable spatial categories / operational areas (region, town, state, etc.) including the number of residents (= maximum user potential) for each mobility service
- Estimate of the rate of implementation/spread of the mobility service and thus the actual user potential
- Definition of the scaling variables (e.g. on-call bus occupied kilometres per passenger, minibuses per resident)
- Definition of the parameters for each scaling variable (e.g. 2.4 on-call bus occupied kilometres per passenger, 1 minibus per 7,500 residents)
- Definition of the cost rate for each scaling variable (e.g. €2 per occupied kilometre, €15,000 per community bus incl. all operating and additional costs)
- Assumption of a percentage cost coverage rate (if meaningful)
- Calculation of the service quantities (e.g. number of occupied kilometres travelled or required vehicles)
- Calculation of the costs from quantities and cost rates
- Calculation of the financing requirement from costs minus income

## 7.2 Subsidy requirement of the state-wide scaling mobility services

- **TABLE 9** indicates that there is a maximum subsidy of about €4 million per year if all mobility services described in the list of measures are scaled up state-wide. The implementation starts with individual, different mobility services and requires lower subsidies initially that only increase with progressive scaling proportional to the overall scaling to the maximum value in about ten years (2030). **APPENDIX 10.5** contains a detailed quantity-cost calculation.
- Implementation of the scaling depends on when the funds will become available and when 'measures for empowerment' ('mobility manager' office, community bus guideline) are realised This financing must primarily be provided by the state of Mecklenburg-Vorpommern.
- With utilisation of additional funding programs at a national or EU level (Interreg, EFRE, LEADER, Land(auf)schwung, etc.), the subsidy requirement indicated here decreases.

**TABLE 9.** Maximum subsidy for state-wide scaling of the mobility services

| MOBILITY SERVICE | POTENTIAL OPERATIONAL AREAS | RESIDENT POTENTIAL | RESIDENT EXPLOITATION | QUANTITY UNITS | SUBSIDY/ YEAR |
|---|---|---|---|---|---|
| Timetable-based on-call bus | Rural | 831,955 residents | 60% | 1.2 million occ. km/year | €1,964,000 |
| Timetable-free on-call bus | Rural+small/ medium-sized towns | 1,083,621 residents | 25% | 36 vehicles | €1,368,000 |
| Community bus | Rural+small/ medium-sized towns | 1,083,621 residents | 5% | 22 vehicles | €112,000 |
| Community transport service | Rural | 831,955 residents | 10% | 33 vehicles | €168,000 |
| Car sharing | in central towns in the rural region | 223,872 residents | 15% | 34 vehicles | €153,000 |
| Scheduling system | State-wide use | | | 1 system | €90,000 |
| Call centre | State-wide use | | | 100,000 calls/year | €100,000 |
| Mobility manager | State-wide use | | | 2 people | €125,000 |
| **Total** | | | | | **€4,080,000** |

# 8 Summary and prospects

- The measures indicated make it clear: there is **no universal mobility service** but rather a diverse range of options with different orientations and time horizons.
- The **services must adapt to the specific initial situation** (such as existing regional rail transport / local public transport services, financing options, awareness of any problems and pressure to act, knowledge and commitment of the local agents, etc.); in practice, the services can also often be implemented as hybrid solutions (see community buses / community transport services **CHAPTER 4**).
- **Approach of 'Promotion through empowerment':** Local ideas and initiatives are promoted using suitable framework conditions and thus contribute to the improvement of mobility in rural regions (also outside traditional local public transport services such as scheduled bus services, on-call buses and hailed share taxis).
- **Measures correspond to** service levels 4 and 5 of **the integrated local public transport service planning** and the **operational principles** of the integrated state transport plan (see **CHAPTER 3.2**).
- The following three measures are recommended for **short-term implementation**:
  - Establishment of a **'mobility management' office**
  - Creation of a **community bus guideline**
  - Specification of the further **implementation of service levels 4 and 5** of the integrated state transport plan (on-call bus, hailed share taxi, community bus, intermodal transport, ride sharing, etc.) with a time horizon of 2030
- The practicability of this list of measures for the further development of mobility services in rural regions depends on the required financial and personnel resources being available.
- In the printed documents of the state parliament (Landtagsdrucksache 7/2668) dated 04.10.2018, the parliamentary groups of the CDU and SPD request with their motion 'Further development of mobility services for local public transport in rural regions' that the state government submit a report on existing projects for local

public transport to improve mobility in rural regions in Mecklenburg-Vorpommern and to evaluate these projects in terms of their transferability and scalability for other regions in the state and to check the financial and technical framework conditions for opportunities to determine if mobility projects for local public transport for the rural regions can be expanded to the entire state and what infrastructure is necessary for such services. The current report can be submitted in response to this request.

→ The results of the expert report, particularly from the mobility services for which expert interviews were conducted, can be used as the basis of further processing of the MARA Interreg project. These results are incorporated into the working areas and final documents, particularly the work package 2 'Analysing and identifying mobility needs in touristic areas' as well as work package 3.1 'Improve existing mobility solutions'.

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Regional local transport plan for West Mecklenburg Part C: Regional Planning Association for West Mecklenburg: Publisher: District of West Mecklenburg, author: PLANUNGSBÜRO FÜR VERKEHR Bornkessel, Brohm & Markgraf, ETC Transport Consultants GmbH, no location 2015

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# 10 Appendices

## 10.1 Profiles of the mobility services

### 10.1.1 ILSE BUS, VORPOMMERN-GREIFSWALD DISTRICT

| DISTRICT | VORPOMMERN-GREIFSWALD |
|---|---|
| Short name for the service | ILSE-Bus |
| Service type (status) | Timetable-free on-call bus (in operation) |
| Service characteristics | On-call bus in local public transport as a feeder bus and supplement to the regular bus service |
| Service area (with number of residents and area) | Administrative district Peenetal/Loitz (5,982 residents in 170 km²) plus to/from Demmin and the Jarmen-Tutow administrative district (6,651 residents in 172 km²) |
| Trip price / fare system | Local public transport fare; additional €1 comfort supplement for drop-off at home |
| Operating times | Monday–Friday: 8:00 am – 6:00 pm |
| Operating principle | Booking up to 30 minutes before the required travel time by telephone or online at VVG dispatch system COVER, PPS/EDV GmbH<br>Board: bus stop, exit: bus stop or home |
| Special features / comments | The name 'ILSE' is derived from the German for 'integrated control centre expansion'<br>No ILSE journeys if a scheduled bus service is available in a window ± 30 min of the desired travel time |
| Sponsor / operator model | VVG is the licence holder as defined in the PBefG; transport operation by VVG and taxi industry |
| Vehicles | VVG: VW bus, VW Caddy; taxi vehicles |
| Passengers/users/mileage | Up to approx. 300 passengers/month |
| Start of operation / project duration | Since December 2017 |
| Financing / cost effectiveness | BMVI funding, public service contract, passenger fares |
| Contact details | Verkehrsgesellschaft Vorpommern-Greifswald GmbH<br>Birgit Klemer<br>+49 (0) 3976 2402–15<br>birgit.klemer@vvg-bus.de<br>www.vvg-bus.de |
| Website | www.ilse-bus.de |

### 10.1.2 COMMUNITY BUS POPPENDORF, ROSTOCK DISTRICT

| DISTRICT | ROSTOCK |
|---|---|
| Short name for the service | Community bus Poppendorf |
| Service type (status) | Community transport service (in operation) |
| Service characteristics | Demand-responsive community bus with volunteer drivers as a supplement to the regular bus service |
| Service area (with number of residents and area) | Municipalities of Poppendorf, Bentwisch and Blankenhagen in the administrative district of Rostocker Heide (4,943 residents in 68 km²) |
| Trip price / fare system | €1.00/trip within the municipality; otherwise €0.50/km |
| Operating times | Wednesdays: 9:15 am |
| Operating principle | Partly flexible round trip that is determined by the bookings made<br>Outward journey: Board at collection points, dropped off in front of destination; return journey: dropped off in front of home<br>Passengers register (several days in advance) by telephone with the community bus association |
| Special features / comments | Passengers acquire a temporary membership in the community bus association as a 'ticket replacement' |
| Sponsor / operator model | Bürgerbus 2017 e.V.; members of the association include the mayor, citizens, drivers, passengers |
| Vehicles | VW bus |
| Passengers/users/mileage | Approx. 1,000 passengers/year<br>Approx. 15,000 km/year |
| Start of operation / project duration | Since June 2017 |
| Financing / cost effectiveness | EU subsidies, 3 municipalities (€2000/year each), association memberships |
| Contact details | Mayor Jörg Wallis<br>+49 (0) 151 14017833<br>poppendorf@amtcarbaek.de |
| Website | www.amt-rostocker-heide.de/blankenhagen/Buergerbus-Blankenhagen |

### 10.1.3 ON-CALL SCHEDULED FLEXIBLE BUS, DISTRICT OF ROSTOCK

| DISTRICT | ROSTOCK |
|---|---|
| Short name for the service | On-call scheduled flexible bus |
| Service type (status) | Timetable-based on-call bus (in operation) |
| Service characteristics | On-call bus in the local public transport system as a replacement for regular bus services |

| | |
|---|---|
| Service area (with number of residents and area) | District of Rostock (215,113 residents in 3,422 km²) |
| Trip price / fare system | Local public transport fare |
| Operating times | Mondays–Sundays: as per timetable |
| Operating principle | Booking by 4:00 pm the day before or on Friday for the weekend and for Monday using the rebus customer centre<br>Boarding and exiting at the bus stops on the particular route |
| Special features / comments | An on-call bus line as an airport feeder bus to the Rostock-Laage airport |
| Sponsor / operator model | rebus is the licence holder as defined in the PBefG; transport operation by rebus and taxi industry |
| Vehicles | rebus: regular buses and minibuses; taxi vehicles |
| Passengers/users/mileage | No information available |
| Start of operation / project duration | Since 2006 |
| Financing / cost effectiveness | Public service contract, passenger fares |
| Contact details | rebus Regionalbus Rostock GmbH<br>Marc Weinhauer<br>+49 (0) 3843 6940–294<br>m.weinhauer@rebus.de |
| Website | www.rebus.de |

### 10.1.4 TIMETABLE-FREE ON-CALL BUS, NORTHWEST MECKLENBURG DISTRICT

| DISTRICT | NORTHWEST MECKLENBURG |
|---|---|
| Short name for the service | Flexible on-call bus system |
| Service type (status) | Timetable-free on-call bus (in operation) |
| Service characteristics | On-call bus in the local public transport system primarily as feeder bus for the coordinated bus network |
| Service area (with number of residents and area) | District of Northwest Mecklenburg (156,726 residents in 2,118 km²) |
| Trip price / fare system | Local public transport fare plus €1 service fee |
| Operating times | Monday–Saturday: 6:00 am – 6:00 pm<br>Sunday/public holidays: 8:00 am – 6:00 pm |
| Operating principle | Free booking using the service number up to 60 min before the required travel time or using the internet booking form |
| Special features / comments | On-call bus introduction in connection with redesign of the local public transport system (coordinated/school/on-call bus network)<br>Booking for prams, wheelchairs, etc. at least 24 hours in advance |

| | |
|---|---|
| Sponsor / operator model | NAHBUS is the licence holder as defined in the PBefG; transport operation by taxi industry |
| Vehicles | Taxi vehicles |
| Passengers/users/mileage | 15,373 bookings/2019<br>1–2 passengers/trip<br>208,597 vehicle km/2019<br>Costs: €256,850/2019<br>Income: €13,896/2019<br>Cost coverage rate: 5.4% |
| Start of operation / project duration | Since January 2016 |
| Financing / cost effectiveness | Public service contract, passenger fares |
| Contact details | District of Northwest Mecklenburg<br>Tino Waldraff<br>+49 (0) 3841 3040–9850<br>t.walldraff@nordwestmecklenburg.de<br>NAHBUS GmbH<br>Jörg Lettau<br>+49 (0) 3881 788815<br>j.lettau@nahbus.de |
| Website | Not available |

### 10.1.5 MINTESO – OPTIMISATION OF THE GREENHOUSE GAS EMISSIONS OF SCHOOL TRANSPORT, DISTRICT OF NORTHWEST MECKLENBURG

| DISTRICT | NORTHWEST MECKLENBURG |
|---|---|
| Short name for the service | MintesO – Reduction of greenhouse gas emissions from school transport in the districts Herzogtum-Lauenburg and Northwest Mecklenburg using intelligent systems for route and driving style optimisation |
| Service type (status) | Optimisation of school transport (in planning) |
| Service characteristics | Optimisation of school transport using demand-optimised routes |
| Service area (with number of residents and area) | District of Northwest Mecklenburg (156,726 residents in 2,118 km²) |
| Trip price / fare system | Irrelevant |
| Operating times | Irrelevant |
| Operating principle | Students register upon boarding at the e-ticket terminal in the bus and their exit stop is noted when doing so; the scheduling system calculates the optimal bus route from this information |
| Special features / comments | Cooperation with the neighbouring district of Herzogtum-Lauenburg<br>Technical support by Atron electronic GmbH |
| Sponsor / operator model | NAHBUS GmbH, district of Northwest Mecklenburg |
| Vehicles | Regular buses |

| | |
|---|---|
| Passengers/users/mileage | No information yet available |
| Start of operation / project duration | Project duration: 2018–2021 (start of operation: 2021) |
| Financing / cost effectiveness | 90% from the district climate change initiative of the BMU, 5% support fund of the metropolitan region of Hamburg, 5% contribution by the two districts |
| Contact details | District of Northwest Mecklenburg<br>Tino Waldraff<br>+49 (0) 3841 3040–9850<br>t.walldraff@nordwestmecklenburg.de<br>NAHBUS GmbH<br>Jörg Lettau<br>+49 (0) 3881 788815<br>j.lettau@nahbus.de |
| Website | Not available |

### 10.1.6 COOPERATIVE REAL-TIME TRANSPORT SYSTEM (KETS), DISTRICT OF NORTHWEST MECKLENBURG

| DISTRICT | NORTHWEST MECKLENBURG |
|---|---|
| Short name for the service | Cooperative real-time transport system (KETS) |
| Service type (status) | Timetable-free on-call bus (in planning) |
| Service characteristics | On-call bus with 'secondary job personnel' in the local public transport system primarily as feeder bus for the coordinated bus network |
| Service area (with number of residents and area) | District of Northwest Mecklenburg (156,726 residents in 2,118 km²) |
| Trip price / fare system | Local public transport fare plus €1 service fee |
| Operating times | No information yet available |
| Operating principle | NAHBUS provides small vehicle; commercial transport operation by municipal employees among others who spontaneously carry out on-call bus trips in the area that has no taxi companies on site; compensation of the transport operation by NAHBUS |
| Special features / comments | Drivers obtain training/qualification as passenger transport licence holder, local public transport system, etc. |
| Sponsor / operator model | NAHBUS GmbH, district of Northwest Mecklenburg |
| Vehicles | Accessible NAHBUS small vehicles |
| Passengers/users/mileage | No information yet available |
| Start of operation / project duration | Project duration: 2019–2022 |
| Financing / cost effectiveness | Funding program 'LandMobil – unterwegs in ländlichen Räumen' (on the move in rural regions) |

| | |
|---|---|
| Contact details | District of Northwest Mecklenburg<br>Tino Waldraff<br>+49 (0) 3841 3040–9850<br>t.walldraff@nordwestmecklenburg.de<br>NAHBUS GmbH<br>Jörg Lettau<br>+49 (0) 3881 788815<br>j.lettau@nahbus.de |
| Website | Not available |

### 10.1.7 MOBILITY APP, DISTRICT OF NORTHWEST MECKLENBURG

| DISTRICT | NORTHWEST MECKLENBURG |
|---|---|
| Short name for the service | Mobility app for NAHBUS Nordwestmecklenburg GmbH |
| Service type (status) | Local public transport app (in planning) |
| Service characteristics | Local public transport app for journey planning and sales incl. on-call bus booking |
| Service area (with number of residents and area) | District of Northwest Mecklenburg (156,726 residents in 2,118 km²) |
| Trip price / fare system | Irrelevant |
| Operating times | Irrelevant |
| Operating principle | Local public transport information across all modes of transport incl. on-call bus; integrated booking function for the on-call bus (leg) usage |
| Special features / comments | Still in the design phase |
| Sponsor / operator model | NAHBUS GmbH, district of Northwest Mecklenburg |
| Vehicles | Irrelevant |
| Passengers/users/mileage | No information yet available |
| Start of operation / project duration | Project duration: 2018–2020 |
| Financing / cost effectiveness | 75% EFRE, 25% applicant's contribution |
| Contact details | District of Northwest Mecklenburg<br>Tino Waldraff<br>+49 (0) 3841 3040–9850<br>t.walldraff@nordwestmecklenburg.de<br>NAHBUS GmbH<br>Jörg Lettau<br>+49 (0) 3881 788815<br>j.lettau@nahbus.de |
| Website | Not available |

### 10.1.8 TIMETABLE-BASED ON-CALL BUS, MECKLENBURG LAKE DISTRICT

| DISTRICT | MECKLENBURG LAKE DISTRICT |
|---|---|
| Short name for the service | On-call bus systems within the conventional regular bus services |
| Service type (status) | Timetable-based on-call bus (in operation) |
| Service characteristics | On-call bus/hailed share taxi in the local public transport system as a replacement for regular bus services |
| Service area (with number of residents and area) | Mecklenburg Lake District (259,130 residents in 5,470 km²) |
| Trip price / fare system | Local public transport fare |
| Operating times | Scheduled times |
| Operating principle | Scheduled on-call bus<br>Boarding and exiting at the bus stops on the particular route<br>Booking by 10:00 am the day before or on Friday through the MVVG/NVB centre |
| Special features / comments | None |
| Sponsor / operator model | MVVG is the licence holder as defined in the PBefG; transport operation by MVVG and taxi industry |
| Vehicles | MVVG regular buses and minibuses, taxi vehicles |
| Passengers/users/mileage | Approx. 1 passenger/trip |
| Start of operation / project duration | Since 2005 |
| Financing / cost effectiveness | Public service contract, passenger fares |
| Contact details | Mecklenburg-Vorpommersche Verkehrsgesellschaft mbH (MVVG)<br>Torsten Grahn<br>+49 (0) 395 570878473<br>grahn@mvvg-bus.de |
| Website | www.mvvg-bus.de |

### 10.1.9 BÜRGERBUS ELLI, MECKLENBURG LAKE DISTRICT

| DISTRICT | MECKLENBURG LAKE DISTRICT |
|---|---|
| Short name for the service | Community bus ELLI |
| Service type (status) | Community transport service (in operation) |
| Service characteristics | Community transport service with volunteer drivers as feeder bus for and supplement to the regular bus service |

| | |
|---|---|
| Service area (with number of residents and area) | Röbel-Müritz administrative district (14,350 residents in 571 km²) |
| Trip price / fare system | Voluntary donation (guideline: €2–3/trip) |
| Operating times | Tuesday–Friday: 9:00 am – 6:00 pm |
| Operating principle | Transport door-to-door<br>Trips organised by telephone booking (Mon+Wed: 3:00–5:00 pm)<br>Bookings can also be made using the 'B.Usnow' app from the VW subsidiary IAV GmbH |
| Special features / comments | Rejection of the e-mobility |
| Sponsor / operator model | Sponsorship association 'Bürgerbus Elde e.V.'; members of the association include the mayor, citizens and KOMOB |
| Vehicles | Seat Alhambra (1+4 seats), Opel Movano (1+8 seats), Nissan E-NV200 Evalia (1+6 seats) |
| Passengers/users/mileage | Approx. 150 passengers/month |
| Start of operation / project duration | Project duration: 2017–2020; continuation in planning |
| Financing / cost effectiveness | Various funds, association memberships, donations |
| Contact details | KOMOB<br>Prof. Udo Onnen-Weber<br>+49 (0) 171 4865011<br>udo@onnen-weber.de |
| Website | www.elli-bus.de |

### 10.1.10 TIMETABLE-BASED ON-CALL BUS, LUDWIGSLUST-PARCHIM DISTRICT

| DISTRICT | LUDWIGSLUST-PARCHIM |
|---|---|
| Short name for the service | On-call bus |
| Service type (status) | Timetable-based on-call bus (in operation) |
| Service characteristics | On-call bus in the local public transport system in coordinated transport primarily as feeder bus for the regional rail system |
| Service area (with number of residents and area) | District of Ludwigslust-Parchim (212,562 residents in 4,750 km²) |
| Trip price / fare system | Local public transport fare + €1 service surcharge/ passenger |
| Operating times | Monday–Sunday: 1- or 2-hourly intervals |
| Operating principle | Telephone booking from Monday to Sunday between 6:00 am – 6:00 pm at least 2 hours before scheduled departure<br>No on-call bus trip if a regular bus is scheduled within ±30 min |

| | |
|---|---|
| Special features / comments | Flexible coverage of the district area by approx. 40 on-call bus zones, always with a link point to the regional rail system<br>On-call bus timetables are tailored to the regional rail timetables |
| Sponsor / operator model | Verkehrsgesellschaft Ludwigslust-Parchim mbH (VLP); transport operation by VLP and taxi industry |
| Vehicles | Taxi vehicles (normal), VLP Caddy (accessible), VLP Vito, VLP buses of all sizes |
| Passengers/users/mileage | 60,000 passengers/2019<br>32,400 trips/2019<br>500,000 occupied km/2019 (1.6% of the timetable-km) |
| Start of operation / project duration | From Dec. 2016 to now |
| Financing / cost effectiveness | Public service contract<br>Operating costs of the on-call bus: approx. €1 million/year<br>Savings on regular bus service: €200,000/year<br>Value added by tickets: €100,000/year<br>Additional costs of on-call bus: €700,000/year<br>VLP turnover: approx. €23 million/year |
| Contact details | District of Ludwigslust-Parchim<br>Gundolf Landsberg<br>+49 (0) 3871 7226003<br>gundolf.landsberg@kreis-lup.de<br>Verkehrsgesellschaft Ludwigslust-Parchim mbH<br>Stefan Lösel<br>+49 (0) 3883 6161–14<br>s.loesel@vlp-lup.de |
| Website | www.vlp-lup.de |

### 10.1.11 BÜRGER-AKTIV-BUS BALOW, LUDWIGSLUST-PARCHIM DISTRICT

| DISTRICT | LUDWIGSLUST-PARCHIM |
|---|---|
| Short name for the service | Bürger-Aktiv-Bus for the Balow district |
| Service type (status) | Community transport service (in operation) |
| Service characteristics | Demand-responsive community transport service as a supplement to the regular bus service; minibus hire for association members |
| Service area (with number of residents and area) | Municipality of Balow and elsewhere according to journey requests (e.g. Grabow, Ludwigslust)<br>(330 residents in 13 km²) |
| Trip price / fare system | Scheduled trips: €2.00–4.20/return journey (corresponds to local public transport price level)<br>Short-range trips: €10/day + €10/hour + €0.50/km<br>Vehicle rental: €0.25/km |
| Operating times | Balow–Grabow: every 2nd + 4th Tuesday in the month at 9:00 am<br>Spontaneously as needed and driver availability<br>Vehicle hire based on vehicle availability |

| | |
|---|---|
| Operating principle | Prior booking of a trip several days in advance, 'dispatcher' queries the driver pool; trip is carried out door-to-door |
| Special features / comments | Essentially a very active association and village life |
| Sponsor / operator model | Association 'Dörfliche Begegnungsstätte Balow e.V.'; association members include other associations (sporting and shooting association, Volkssolidarität, etc.) as well as all drivers and passengers (membership fee: €12/year/member) |
| Vehicles | Mercedes Vito (1+7 seats) |
| Passengers/users/mileage | Approx. 6,000 km/year |
| Start of operation / project duration | From 2014 to now |
| Financing / cost effectiveness | LEADER funds, association memberships<br>Transport operation (without vehicle purchase) breaks even |
| Contact details | Balow district<br>Mayor Kriemhild Kant<br>+49 (0) 172 6037380<br>kriemhild.kant@t-online.de |
| Website | Not available |

### 10.1.12 BÜRGERMOBIL BANZKOW, LUDWIGSLUST-PARCHIM DISTRICT

| DISTRICT | LUDWIGSLUST-PARCHIM |
|---|---|
| Short name for the service | Community vehicle for the Banzkow municipality |
| Service type (status) | Community transport service (in operation) |
| Service characteristics | Demand-responsive community transport service as a supplement to the regular bus service; minibus hire for association members |
| Service area (with number of residents and area) | Municipality of Banzkow as well as to Crivitz, Ludwigslust and Schwerin (2,769 residents in 52 km²) |
| Trip price / fare system | Transport service: €3/6/12 (based on distance)<br>Vehicle rental: €25/day + €0.22/km |
| Operating times | Thursday: Shopping trip in the municipality<br>2nd Tuesday of the month: Trip to administrative authorities in Crivitz<br>Other trips upon consultation |
| Operating principle | Booking of a trip several days in advance where possible by telephone or email; 'Bürger-Mobil' dispatcher searches in the driver pool; trip is carried out door-to-door |
| Special features / comments | Vehicle owned by the municipality, association operates the vehicle<br>'Fare' collected in the form of temporary association memberships |

| | |
|---|---|
| Sponsor / operator model | Community bus association |
| Vehicles | Ford Transit (1+7 seats plus cargo storage) |
| Passengers/users/mileage | Approx. 250 community transport service trips/year plus 15 association trips/year |
| Start of operation / project duration | From January 2017 to now |
| Financing / cost effectiveness | €52,000 own funds,<br>€47,000 from the Warnow-Elde-Land campaign group |
| Contact details | Banzkow district<br>Mayor Ralf Michalski<br>+49 (0) 152 59384031<br>gemeinde-banzkow@gmx.de |
| Website | Not available |

### 10.1.13 TRANSPORT SERVICE WITTENHAGEN, VORPOMMERN-RÜGEN DISTRICT

| DISTRICT | VORPOMMERN-RÜGEN |
|---|---|
| Short name for the service | Alternative mobility services in the Wittenhagen municipality |
| Service type (status) | Transport service (in operation) |
| Service characteristics | Demand-responsive transport service of a nursing service and minibus hire during the vehicle downtimes |
| Service area (with number of residents and area) | From the Wittenhagen municipality (1,118 residents in 47 km²) predominantly to Grimmen |
| Trip price / fare system | Transport service: €7.50/person for a return journey to Grimmen<br>Minibus hire: Fuel costs (‘full tank rule’) |
| Operating times | Transport service: Tuesday + Thursday: 11:00 am – 3:00 pm<br>Vehicle hire: over the weekend (also for whole days) |
| Operating principle | Booking of trip and hire requests through the nursing service<br>At least 4 passengers/trip |
| Special features / comments | Additional use of an accessible minibus outside its original use for passenger transport to the day nursing facility<br>Driver has a passenger transport licence and training as a carer |
| Sponsor / operator model | Ambulanter Pflegedienst Beeskow GmbH |
| Vehicles | Mercedes Sprinter (8+1 seats, ramp, entry aids, high roof, wheelchair lift) |
| Passengers/users/mileage | Transport service: approx. 8 passengers/week, hire: 40 hires/year |
| Start of operation / project duration | From January 2016 to now |

| | |
|---|---|
| Financing / cost effectiveness | Land(auf)Schwung funds (initially), funds from the nursing service, fares<br>Pays for itself |
| Contact details | Ambulanter Pflegedienst Beeskow GmbH, Wittenhagen<br>Frederic Beeskow<br>+49 (0) 38327 697371<br>frederic.beeskow@freenet.de |
| Website | https://pflegedienst-beeskow.de/fahrdienst/ |

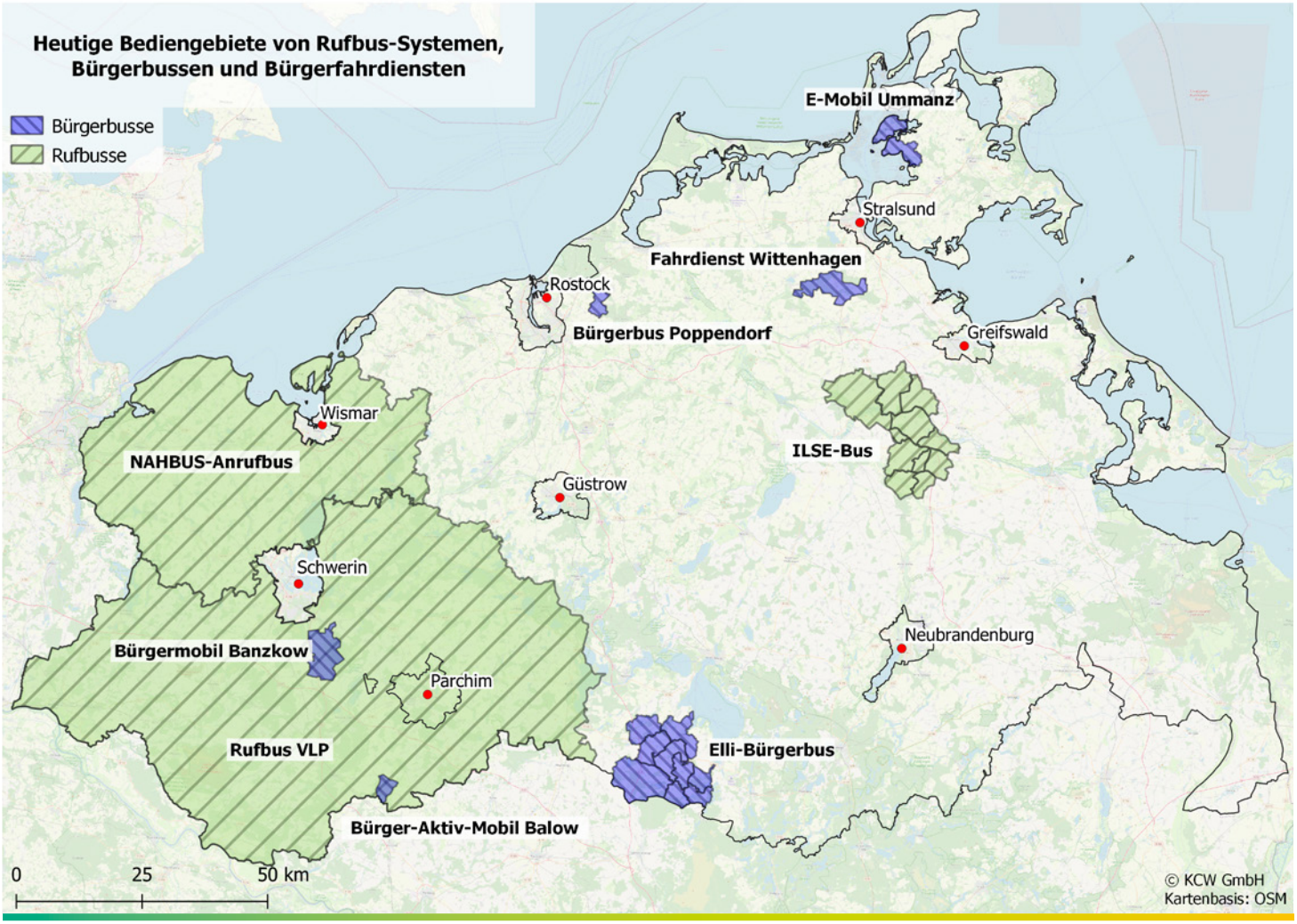
### 10.1.14 RIDE SHARE BENCHES ALTENPLEEN, DISTRICT OF VORPOMMERN-RÜGEN

| DISTRICT | VORPOMMERN-RÜGEN |
|---|---|
| Short name for the service | Ride share benches |
| Service type (status) | Ride share bench (in operation) |
| Service characteristics | Waiting zones for ride share opportunities in the Altenpleen (22) and Stralsund administrative districts (2) |
| Service area (with number of residents and area) | Altenpleen administrative district (957 residents in 20 km²) and the Hanseatic City of Stralsund |
| Trip price / fare system | Free of charge |
| Operating times | 24/7 |
| Operating principle | Take a place on the ride share bench and wait until collected or agreement between driver and passenger using the ride share app |
| Special features / comments | Voluntary registration by the drivers offering trips<br>After the first 'ride share trip', the people make their arrangements in person |
| Sponsor / operator model | Altenpleen administrative district |
| Vehicles | Not applicable |
| Passengers/users/mileage | To date about 30 registered drivers offering trips |
| Start of operation / project duration | From December 2019 to now |
| Financing / cost effectiveness | Land(auf)Schwung funds, contribution from the Altenpleen administrative district |
| Contact details | Altenpleen administrative district<br>Ines Materna-Braun<br>+49 (0) 38323 459–0<br>info@altenpleen.de |
| Website | www.altenpleen.de/gemeinden/altenpleen/23-newstexte/290-neuigkeiten-rund-um-die-mitfahrbaenke |

### 10.1.15 ELECTRIC COMMUNITY BUS UMMANZ, DISTRICT OF VORPOMMERN-RÜGEN

| DISTRICT | VORPOMMERN-RÜGEN |
|---|---|
| Short name for the service | Electric community bus Ummanz |
| Service type (status) | Community transport service (in planning) |
| Service characteristics | Demand-responsive community transport service as a supplement to the regular bus service |
| Service area (with number of residents and area) | Municipality of Ummanz and to Samtens |
| Trip price / fare system | Voluntary donations |
| Operating times | Not yet defined |
| Operating principle | Booking 48 hours in advance |
| Special features / comments | Vehicle purchase and trial period completed; concept for ongoing operation is currently being discussed |
| Sponsor / operator model | Municipality of Ummanz / 'Die Rügeninsel Ummanz e.V.' |
| Vehicles | Electric Vito (1+7 seats) |
| Passengers/users/mileage | No information available |
| Start of operation / project duration | Since January 2019 |
| Financing / cost effectiveness | Land(auf)Schwung funds for the installation of the electric charging station, purchase of the electric bus, PR; approx. €11,300 funds of the administrative district of West Rügen; Land(auf)Schwung grant: €101,893.71 |
| Contact details | Municipality of Ummanz (Rügen)<br>Mayor Holger Kliewe<br>+49 (0) 38305 530010<br>Holger.Kliewe@Bauernhof-Kliewe.de |
| Website | www.ummanz-ebus.de |

## 10.2 Overview map of the current service areas of the on-call bus systems, community buses and community transport services



## 10.3 Tabular analysis of the regional development programs

| RURAL DEVELOPMENT REGION | YEAR | DEFINITIONS OF LOCAL PUBLIC TRANSPORT FOR SERVICE LEVELS 4 AND 5 AS WELL AS FOR TOURISM SERVICES | JUSTIFICATIONS |
|---|---|---|---|
| Vorpommern | 2010 | *For areas or periods with demonstrably weak demand for transport services, to ensure an attractive minimum service and flexibility for the long term it is essential to introduce demand-responsive types of transport or alternative service forms (hailed and share taxis, on-call-bus, etc.).* | *In principle, the use of demand-responsive alternative service forms should be encouraged. In addition, the community bus, which is operated by voluntary drivers, is a special case that can supplement the basic local public transport system in areas with low demand or at times with particularly weak demand.* |
| West Mecklenburg | 2010 | *For the rural region the local public transport system should be designed so that the next closest central location can be reached in an appropriate time. An appropriate connection of areas for which there is a public need should be aimed for.* | *Other transport services such as scheduled taxis, hailed share taxis, on-call bus or tourism boat transport should also be considered.* |
| Mecklenburg Lake District | 2011 | *In regions with low passenger numbers, (...) demand-responsive alternative service forms to ensure an acceptable and economically viable service should be introduced. The accessibility of services significant for tourism by the local public transport system will be assured and developed in response to needs.* | *For the supplementary network to exploit the region, it is therefore necessary to plan for the use of demand-responsive service forms (on-call bus, hailed share taxi, etc.) so that even in sparsely populated regions an economically viable minimum service within the local public transport system can be ensured over the long term.*<br>*The rise in the number of potential users during peak seasons should be taken into account in the service frequency, and in particular the arrival and departure of the guests using public transport shall be attractively designed: 'For utilisation of the local public transport system by tourists, the trip purposes "arrival and departure" as well as "utilisation during the stay" should be designated as essential.'* |
| Central Mecklenburg/ Rostock | 2011 | *With corresponding demand, in the primary target areas of tourism (...) coordinated timetables should be established.* | *(...) In addition, flexible demand-responsive service forms such as on-call buses and share taxis in can contribute to ensuring mobility the rural region.* |

## 10.4 Tabular analysis of the integrated rural and regional development concepts

| DISTRICT/ REGION | GENERAL PRINCIPLES | DEVELOPMENT OBJECTIVES (EZ) | HORIZONTAL OBJECTIVES (QSZ) | AREAS OF ACTIVITY (HF) | LEAD PROJECTS (LP) / APPROACHES / MEASURES (M) / PARTIAL OBJECTIVE (TZ) |
|---|---|---|---|---|---|
| Ludwigslust-Parchim | *No information available about local public transport mobility* | Utilisation of new individual local public transport systems | *No information available about local public transport mobility* | HF4: Transport, mobility | LP6: Mobility through alternative service forms in the local public transport system |
| North Vorpommern | Public services and mobility | Flexible connection to central destinations | *No information available about local public transport mobility* | HF3: Stable public services and demand-responsive mobility | M1: Creation of alternatives to regular transport<br>M2: Networking of means of transport and creation of alternatives to cars<br>M3: Community initiatives to supplement the local public transport service |
| Northwest Mecklenburg | *No information available about local public transport mobility* | *No information available about local public transport mobility* | *No information available about local public transport mobility* | *No information available about local public transport mobility* | *No information available about local public transport mobility* |
| Rostock North | Safeguarding and improving quality of life | HF1 objective: Development of flexible forms of mobility apart from motorised individual transport | *No information available about local public transport mobility* | HF1: Safeguarding public services and encouraging social interaction in the rural region; support for alternative and networked mobility solutions | *No information available about local public transport mobility* |
| Rostock South | *No information available about local public transport mobility* | EZ2: Preservation and safeguarding of quality of life | *No information available about local public transport mobility* | HF3: Safeguarding and improving social quality of life | EZ2 approach: Creation of flexible forms of mobility |
| Island of Rügen | Public services and mobility | *No information available about local public transport mobility* | QSZ5: Climate change action and environmental protection | HF3: Stable public services and demand-responsive mobility | QSZ5 approach: Reduction in traffic using collective forms of mobility<br>M1: Creation of alternatives to regular transport<br>M2: Networking of means of transport and creation of alternatives to cars<br>M3: Community initiatives to supplement the local public transport service |
| Vorpommern-Greifswald | Safeguarding quality of life and sustainable settlement development in the rural region | Improving local public transport accessibility in the rural region<br>Development and implementation of electric mobility approaches | *No information available about local public transport mobility* | HF4: Mobility and transport infrastructure | *No information available about local public transport mobility* |
| Mecklenburg Lake District | *No information available about local public transport mobility* | Preservation and revitalisation of quality of life in all parts of the region and for all population groups by safeguarding public services | *No information available about local public transport mobility* | HF3: Settlement structure, public services, mobility<br>HF3 objective: Mobility services in the region and for tourism development | LP9: Initiation and implementation of a regional mobility management system with mobility centre<br>HF3-TZ3: Development of demand-responsive local public transport services as feeder transport for main network<br>HF3-TZ4: Development and marketing of needs-oriented, flexible (...) service forms to improve accessibility outside the local public transport network |

## 10.5 Tabular analysis of the local transport plans

| DISTRICT/ REGION (YEAR OF CREATION) | EXISTING SERVICES | SERVICE CONCEPTS | MEASURE PLANNING | REQUESTS TO THE STATE OF MECKLENBURG–VORPOMMERN |
|---|---|---|---|---|
| Ludwigslust-Parchim (2015) | Scheduled taxi, hailed share taxi, on-call bus | Development of alternative service forms | Acceleration of alternative service forms in the district south/west | |
| Northwest Mecklenburg (2015) | Demand-responsive feeder bus to Boltenhagen | (Expanded) alternative service Mobility centre, ride share portal | Flexible alternative service with connection to coordinated transport | |
| Bad Doberan (2005) | Scheduled taxi, on-call scheduled vehicle (ALF) | Alternative service forms (scheduled bus, semi-flexible bus, semi-flexible hailed share taxi, flexible bus) | Neubukow surrounds<br>Region Kröpelin / Altenhagen / Rederank / Satow<br>Region Dummerstorf / Kavelstorf / Prisannewitz<br>Relation Nienhagen – Lütten Klein | |
| Güstrow (2005) | Scheduled taxi, on-call scheduled vehicle (ALF) | Alternative service forms (scheduled bus, semi-flexible bus, semi-flexible hailed share taxi, flexible bus) | Recknitz region<br>Neuendorf / Bernitt region<br>Wattmannshagen region<br>Laage (Laage, Wardow, Groß Ridsenow) surrounds | |
| Vorpommern-Rügen (2013) | On-call scheduled trips | Tourism routes (summer: 30 min intervals, winter: 60 min intervals)<br>On-call bus, hailed share taxi, community bus | Island of Rügen, Fischland-Darß-Zingst Peninsula<br>Evaluation of a fareless local public transport systems in the locations Sellin, Baabe and Göhren and, if applicable, transfer of the model to other tourism regions in the district<br>Development and implementation of a service concept for alternative service forms | |
| Vorpommern-Greifswald (2017) | Scheduled taxi, minibus, on-call bus<br>Car sharing (only in Greifswald) | Development of a tourism network<br>Use of demand-responsive service forms (explicitly NO flexible operation!)<br>Alternative service and mixed forms with the other local public transport system (support, community bus, fifty-fifty taxi, intermodal bus) | Cooperation between tourism and local public transport and improvement in the connection to tourism focal points<br>Development of an implementation concept to introduce flexible (route-based) on-call bus solutions<br>Testing of the implementation of combined on-call bus and patient transport (ILSE) | Adjustment of the communal tax code to utilise the spa and tourism levies for other local public transport services in the tourism network<br>Creation of guidelines and funding arrangements for community buses |
| Mecklenburg Lake District (2016) | Scheduled taxi, on-call scheduled trips, hailed share taxi, demand-responsive trip sections and individual request stops<br>Tourism transport 'Müritzlinie', 'Rundbus' (sic) | Supplement to and, where applicable, replacement of regular services by demand-responsive services in periods of low traffic intensity<br>Alternative public mobility services (community buses, ride share systems, intermodal systems)<br>Tourism seasonal transport with min. 3 journeys in each direction/day on the weekend | | |

## 10.6 Quantity-cost calculation for the state-wide scaled mobility services

| MOBILITY SERVICES | TIMETABLE-BASED ON-CALL BUS | TIMETABLE-FREE ON-CALL BUS | COMMUNITY BUS | COMMUNITY TRANSPORT SERVICE | CAR SHARING | SCHEDULING SYSTEM | CALL CENTRE | MOBILITY MANAGER | TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| Region categories | Rural | Rural + small / medium-sized towns | Rural + small / medium-sized towns | Rural | Central towns in the rural region | Mecklenburg-Vorpommern | Mecklenburg-Vorpommern | Mecklenburg-Vorpommern | |
| User potential | 831,955 residents | 1,083,621 residents | 1,083,621 residents | 831,955 residents | 223,872 residents | | | | |
| Distribution | 60% | 25% | 5% | 10% | 15% | | | | |
| Scaling unit | Occupied kilometre | Minibus | Minibus | Minibus | Car | Scheduling system | Bookings | Personnel | |
| Scaling parameter | 2.4 occ.km/ resident/year | 1 veh./7,500 residents | 1 veh./2,500 residents | 1 veh./2,500 residents | 1 veh./1,000 residents | 1 system/ state | 50% CC booking | 2 people | |
| Cost rate per scaling unit | €1.93/occ.km | €0.96/veh. km | €10,200/ veh./year | €10,200/ veh./year | €9,000/veh./ year | €90,000/year | €1.00/CC booking | €62,500/ emp./year | |
| Cost coverage rate (without grants) | 15% | 10% | 50% | 50% | 50% | | | | |
| Scaling quantity | 1,198,015 occ. km/year | 36 veh. | 22 veh. | 33 veh. | 34 veh. | 1 system | 100,000 calls/ year | 2 people | |
| Operating costs/year | €2,310,173 | €1,520,298 | €224,400 | €336,600 | €306,000 | €90,000 | €100,000 | €125,000 | |
| **Subsidy/year (rounded)** | **€1,964,000** | **€1,368,000** | **€112,000** | **€168,000** | **€153,000** | **€90,000** | **€100,000** | **€125,000** | **€4,080,000** |

## 10.7 Brief description of all MARA projects (English)

*The brief descriptions of all the MARA projects were taken word-for-word from the project home page www.mara-mobility.eu.*

### 10.7.1 PILOTING AN INTEGRATED SYSTEM FOR E-BIKES + CAR SHARING TO INCREASE MOBILITY IN SETESDAL (NORWAY)

This pilot/study case will take place in the Setesdal Region (Southern Norway).

**Description of the area**

Setesdal is a valley in the south part of Norway. 210 km long with a scenic and wild nature formed by the river Otra. Despite the proximity to the sea-shore and larger hubs like the cities Arendal and Kristiansand, the region faces challenges with de-population and demographic changes. Tourism is a growing business in the valley, in particular cultural – and nature based tourism.

Challenges the region is facing in regards to mobility are:

- Inhabitants and tourists are depending on their use of private cars
- The road system are generally poor
- Transportation within the destination is not supporting a sustainable development of the destination.

Through the MARA project, The Setesdal Regional Council is aiming to introduce new innovative mobility solutions for its mountainous area with two cases, one for e-bikes and another for car sharing.

**Current mobility situation in the area**

In this project we are looking into the current situation on mobility and transportation in the Setesdal region by reviewing existing offers, normal transportation used by inhabitants and tourists and evaluating regional and local plans concerning mobility and accessibility. We will use tools available from the MARA project to do this. Stakeholders in this report are local inhabitants, local councils, regional councils, local and regional transport companies, destination management and of course other MARA partners.

**Pilot cases to tackle the mobility challenges**

*E-bike pilot*

Our case is to establish a pilot case testing out a solution for the use of e-bikes in our region. Our long term goal is to plan and design an integrated system for use of e-bikes for inhabitants and tourists in the entire valley. This system is planned to be a cooperation with local councils, inhabitants and partners from the tourist businesses.

Benefits we will see come out of this projects are:

- Social, by increasing mobility for inhabitants and tourist
- Environmental, by more climate friendly use of transportation
- Improved health and fitness, by increasing the use of e-bikes
- New offers for travel and tourism businesses

To test the viability in this plan we will first do a pilot. The pilot will take place in one of the centres in the valley and will consist of bikes, charging stations, logistic plans and intelligent digital solutions to manage the whereabouts and technical conditions of the bikes. We will also monitor the user's behaviour and movement patterns in order to create an efficient and user oriented product.

*Possibility for car sharing*

In this case we will use the result of the report to establish the possibility for a system of car sharing to increase mobility in the region. We`re aiming to find a solution that will address challenges like:

- The need for children to be able to take part in social events and recreational activities.
- The need for elderly people to play an active role in the community
- The possibility to reduce social isolation for other inhabitants without access to cars

Even though Norwegian legislation today reduces the possibilities for such solutions, we will plan for future scenarios, both regarding practical as well as technical opportunities. As a partner in the MARA project we will have the opportunity to learn from other partners also in this case.

### 10.7.2 IMPROVING MOBILITY SERVICES IN LUDWIGSLUST-PARCHIM (GERMANY)

This pilot case seeks to improve public mobility services in a rural region, the administrative district of Ludwigslust-Parchim, federal state of Mecklenburg-Vorpommern (Germany).

The "Landkreis" (administrative district) of Ludwigslust-Parchim is located in the south-west of Mecklenburg-Vorpommern. Public mobility services need to be adapted to the challenges of the region.

### Main challenges faced in the area

This region faces similar challenges as other rural regions of the Baltic sea area and of the MARA project:

- changes in the demographic structure in some areas of the region
- growing importance of nature-based tourism along with a seasonal fluctuation of tourists
- change in the supply of the public and private services

Compared to other regions in Germany and to the average population density in Mecklenburg-Vorpommern (69 people per square kilometer) the area of Ludwigslust-Parchim is sparsely populated (45 people per square meter).

### A pilot case to tackle the mobility challenge

The improvement of the mobility solutions and services should mainly address inhabitants yet also the target group of tourists may be kept in mind. In this special case it aims to improve the offers of a call-a-bus-system.

To do so the mobility patterns of the inhabitants (and tourists) will be identified and analysed with the help of new visualization tools. Mobility needs will be ascertained by analysing the accessibility of different destination types (work places, public and private service facilities, points of interest). The existing mobility offers will be identified and assessed against the results of this (prior) analysis. One of the results will be the identification of the public transport supply gaps in order to improve the mobility offers.

Besides those analytical parts of the case it is aimed to work on the digital workflow of this public service provision. This encompasses aspects like an improved digital timetable, eTicketing, ePayment, an improved disposition system, real time information for passengers about connections and the digitalization of the process chain for the management of the transportation service.

Project partner of the regional case study is the "Verkehrsgesellschaft" (transportation operator) Ludwigslust-Parchim. The case study is in its early stage: it started in the middle of November 2019 und will last until June 2021.

## 10.7.3 STUDY THE POSSIBILITY OF EXTENDING EXISTING CAR SHARING SOLUTIONS TO TOURISTIC REMOTE AREAS BIRŠTONAS CITY AND DRUSKININKAI CITY (LITHUANIA)

The pilot/study case will take place in Birštonas city and Druskininkai city (Lithuania).

### Description of the area

Birštonas is a spa resort town located between the two largest cities of Lithuania: Vilnius (capital) and Kaunas. Birštonas situated 30 km south of Kaunas and 100 km west of Vilnius. The second one, Druskininkai is a spa resort town in southern Lithuania close to the borders of Belarus and Poland. Both resorts, apart from abundant spa/ wellness procedures, have a lot of other sports// recreation (ski arena, water park, ski hill, etc.). So, they are very popular all year round not only among citizens of Lithuania but also receive a large number of guests from neighbouring countries, mostly from Germany, Poland, Byelorusia and Russia. Both spa towns are accessed by national status roads from Kaunas, Vilnius, and Marijampolė. These towns are served by the Vilnius International airport and Kaunas International Airport. The growth of the native population is negative (Druskininkai has 23,000 residents and Birštonas – only 2,300), and the population is ageing.

### The mobility challenges

- Connectivity is not solved correctly with other Lithuanian regions and biggest cities Vilnius and Kaunas.
- Suburban public transport is not sufficiently developed or does not exist at all.

### The pilot case

The aim of the case study is the examination of car-sharing services modes and other types of transport means in Lithuania, the tasks of the Lithuanian project partner Vilnius Gediminas Technical University (VGTU) include:

- Implementation of car-sharing service modes and other types of public transport for improving sustainable mobility in rural regions and remote areas.
- New collaborative business models of services based on sharing economy for mobility in rural and/or remote areas will be investigated.
- Reviewing the existing regulatory framework in a rental car and insurance regulation in EU countries.
- Conducting a market assessment to understand the competitive landscape, who what their mobility frustrations (failure to meet expectations) are and if the proposed business model will solve that problem.
- New concepts of marketing of car-sharing system and new business models for sharing economy will be developed. Feasibility study for the implementation of the automated vehicles instead of conventional will be provided.

## 10.7.4 CREATING SPATIAL POPULATION PREDICTION SCENARIOS IN URBAN-RURAL CONTEXT IN THE REGION OF KYMENLAAKSO (FINLAND)

This pilot/study case will take place in the region of Kymenlaakso (Finland).

### Description of the area

Kymenlaakso is a region by the Baltic Sea in south-east Finland next to Russia, near St. Petersburg. The TEN-T E18 motorway from Turku to St. Petersburg goes through the region. Kymenlaakso has a rich industrial history including forestry and paper industry. The harbour of Kotka is of great importance to the region. However, the region suffers from loss of competitiveness. Kymenlaakso has 180,000 inhabitants. The population growth is negative, and the population is ageing. The tourist potential is high because of its location in the neighbourhood of Russia. Also the nature attractions, like fascinating archipelago and lake areas, are a potential resource for the region.

### The mobility challenges

Most of the Finnish regions face population decline and so does Kymenlaakso. The Regional Council of Kymenlaakso is trying to find ways to get the most out of the possibilities the area offers. One key target is the development of low-carbon transport, also in rural areas.

### The pilot case

SYKE (the Finnish Environmental Institute), one of MARA's partners, will cooperate with the Regional Council of Kymenlaakso in creating spatial population-prediction scenarios in an urban-rural context. SYKE's population modelling tools support the regional planning and development strategies and actions. SYKE will also create a regional transport model, which will produce guidelines for policy options to decrease transport emissions.

## 10.7.5 SUPPORTING NEW PUBLIC TRANSPORT PLANS IN THE CITY OF KOUVOLA (FINLAND)

This pilot/study case will take place in the city of Kouvola (Finland).

### Description of the area

Kouvola is a middle-sized city with 83,000 inhabitants in south-east Finland. It is part of the Kymenlaakso region, the other MARA case area in Finland. The city of Kouvola consists of six municipalities. The demographic trend of Kouvola has been in decline

for decades and the birth rate is low. Kouvola is an important railway hub with good connections to Helsinki and St. Petersburg. The train trip to St. Petersburg takes a bit over two hours. Kouvola has many centres, many villages and large rural areas. The area of the city is 2900 km² and it has over 300 km² of inland waters. Kouvola has almost 8,000 summer cottages.

**The mobility challenges**

The dispersed spatial structure and large geographic area combined with a decreasing and ageing population make it difficult to arrange transport services for inhabitants in rural and peripheral areas. The existing train and bus routes do not provide a very good transport service level, and the operation costs are high. There are large areas that lack good public transport.

**The pilot case**

The smart land use planning decisions and open-minded new transport solutions are new ways to develop the public transport service level. A free public transport strategy – if done wisely – might offer solutions for the transport problems of Kouvola. On the other hand, the large amount of summer houses and part-time inhabitants could be turned into permanent inhabitants and excellent living environments. MARA is supporting both these goals: SYKE will analyse the possibilities and realism of the plans and strategies and also offer modelling-based scenarios for Kouvola. The work relies on co-development, GIS-analyses and modelling, scenario building, and the participation of the end-users.

### 10.7.6 IMPLEMENTATION AND TESTING OF NEW (WATER) ROUTES BETWEEN PETROZAVODSK – ZAONEZHJE (RUSSIA)

This pilot/study case will take place in Petrozavodsk – Zaonezhje on the Onega Lake in Karelia (Russia).

Onega is the second largest lake in Europe. Traditionally people live in the areas around the lake, and it was and is a source of water, food, and different activities for local people. A number of transport routes go over and through the lake connecting villages and towns. Today the area is also a unique tourist attraction because of its nature as well as the architectural monuments, the most famous of which is the UNESCO monument Kizhi Museum.

**The challenges**

At the same time the accessibility of the area is very limited both for the locals and tourists and has a very clear seasonal character – during the spring and autumn periods, due to weather conditions and bad road infrastructure, the possibilities for coming and going are very limited as well as unsafe.

**The pilot cases**

For the two Russian partners, the Petrozavodsk City Administration and the Tourist Information Center of the Republic of Karelia, the tasks include:

- Establishing a local working group including key actors.
- Collecting and analysing data presenting the citizens' and tourists' mobility needs.
- Developing between one and three mobility routes between Petrozavodsk Zaonezhje, with special focus on the water routes and transport means.
- Installation of navigation marks in the area.
- Organisation of a seminar for the north-west Russia actors in the field of mobility.
- Development/adaptation and e-solution-based for tourists and local dwellers.
- Development of recommendations for the Velikaya Guba settlement and Petrozavodsk City Administration.

### 10.7.7 DEVELOPMENT ON AN INTEGRATED MOBILITY PLAN FOR THE SÄLEN/ TRYSIL AND THE ÅRE AREAS (SWEDEN)

This pilot/study case will take place in the Sälen/Trysilarea, Sweden (main case) and the Åre area, Sweden (follower case).

#### Main challenges

Trafikverket has a need to improve methods, models and processes in the early phase of infrastructure planning for remote areas with an extensive tourism industry. Trafikverket's approach in MARA is to develop the dialogue between municipalities, other public organisations, business and citizens in winter resorts in the Sälen/Trysil area (main case) and the Åre area (follower case). These areas have the common goal to further develop their tourism industry in a sustainable direction. This implies developing and improving public transport solutions to access these areas.

#### The pilot case

The main focus will be to develop an integrated mobility plan for the Sälen/Trysil area where gender aspects are included. New digital tools and technologies will be tested in the planning process. The generalisation of the results and their applicability to other tourist destinations will be evaluated using Åre as a follower case. Trafikverket will work together with the University of Dalarna in the development of the integrated mobility plan. The University of Dalarna will develop digital tools for visualising mobility patterns in the main case and how they may be impacted by investments or other actions.

### 10.7.8 CAR SHARING AND ELECTRIC BIKE SHARING BETWEEN STRATEGIC POINTS IN HAJNOWKA COUNTY (POLAND)

This pilot/study case will take place in the Podlaskie Region (Poland) in Hajnowka County.

#### Main challenges faced in the area

- With a GDP per capita that represents 71.1% of the Polish GDP (€7,900 per person while the average in Poland is €11,130), the region is one of the poorest in Poland.
- The region of Podlaskie has the lowest population density in Poland (59 inhabitants/1 km²; the average in Poland is 123 inhabitants/1 km²).
- It faces a systematic decrease in the number of inhabitants – since 2002 almost 2% and a predicted further decline of 17.8% by 2050.
- The region has an inadequate transport network.

#### A pilot case to tackle the mobility challenge

- Hajnowka is a very touristic region. The Białowieża National Park is the oldest national park in Poland and is listed as a UNESCO World Heritage park. The park attracts a lot of tourists who want to practice hiking, Nordic walking, or cycling.
- The aim of this pilot case is to develop cars and electric bike sharing in Hajnowka County for both tourists and inhabitants. In this rural area, various means of transport are not developed enough because of the low population density, even if the demand for moving around these specially protected areas is large because of tourists.
- It will be possible to borrow cars and e-bicycles by registering an application and using a special card. Bicycles will be borrowed through the app, which will send the code to rent a bike.
- The cars and e-bike stations will be located close to the bus station and train station where further movement is difficult.

### 10.7.9 E-BICYCLES/E-CARGO BICYCLE SHARING SYSTEM IN VIDZEME (LATVIA)

This pilot/study case will take place in Vidzeme (Latvia).

#### The pilot case

An e-bicycle/e-cargo bicycle sharing system for tourists and locals will be tested as a pilot in one or two locations in the Vidzeme Planning Region (189,000 inhabitants, almost half of whom live in rural areas) where local companies do not provide such services.

Locations of the stations will be selected after a feasibility study. Most likely these will be towns with populations between 5,000 and 10,000 inhabitants.

It is envisioned that the pilot would consist of e-bikes, a weatherproof stand for them (or a solution to keep them indoors but available to those that want to rent them), and a bike-booking system operated either through external companies or municipalities (for example the Tourism Information Centre).

A particular emphasis will be put on user feedback.

#### The challenges it tackles

Many areas in the Vidzeme Planning Region are sparsely populated. Therefore, motorised public transportation solutions are often not implementable or their schedules are not adequate for tourists (you can get one way but will have a hard time returning after visiting a tourist destination).

In addition, the road conditions, quality of infrastructure and the elevation justify the selection of battery-assisted bicycles instead of regular ones. This decision makes even more sense when the average age of tourists is considered (Vidzeme attracts a large share of elderly tourists from other EU countries) as well as the ageing local population.

E-bicycles/e-cargo solutions would also provide an alternative to the locals who are still using cars for short distance trips.