

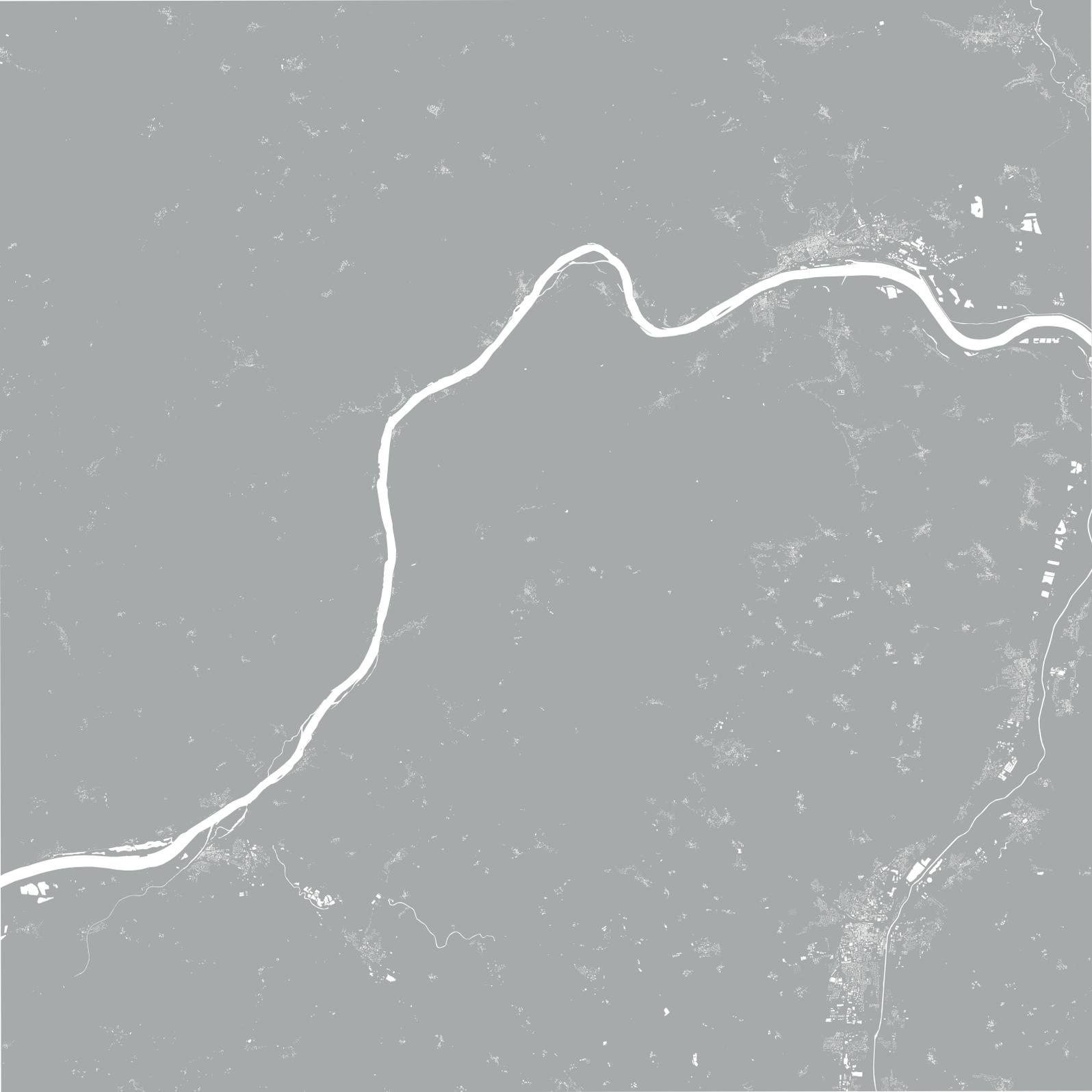


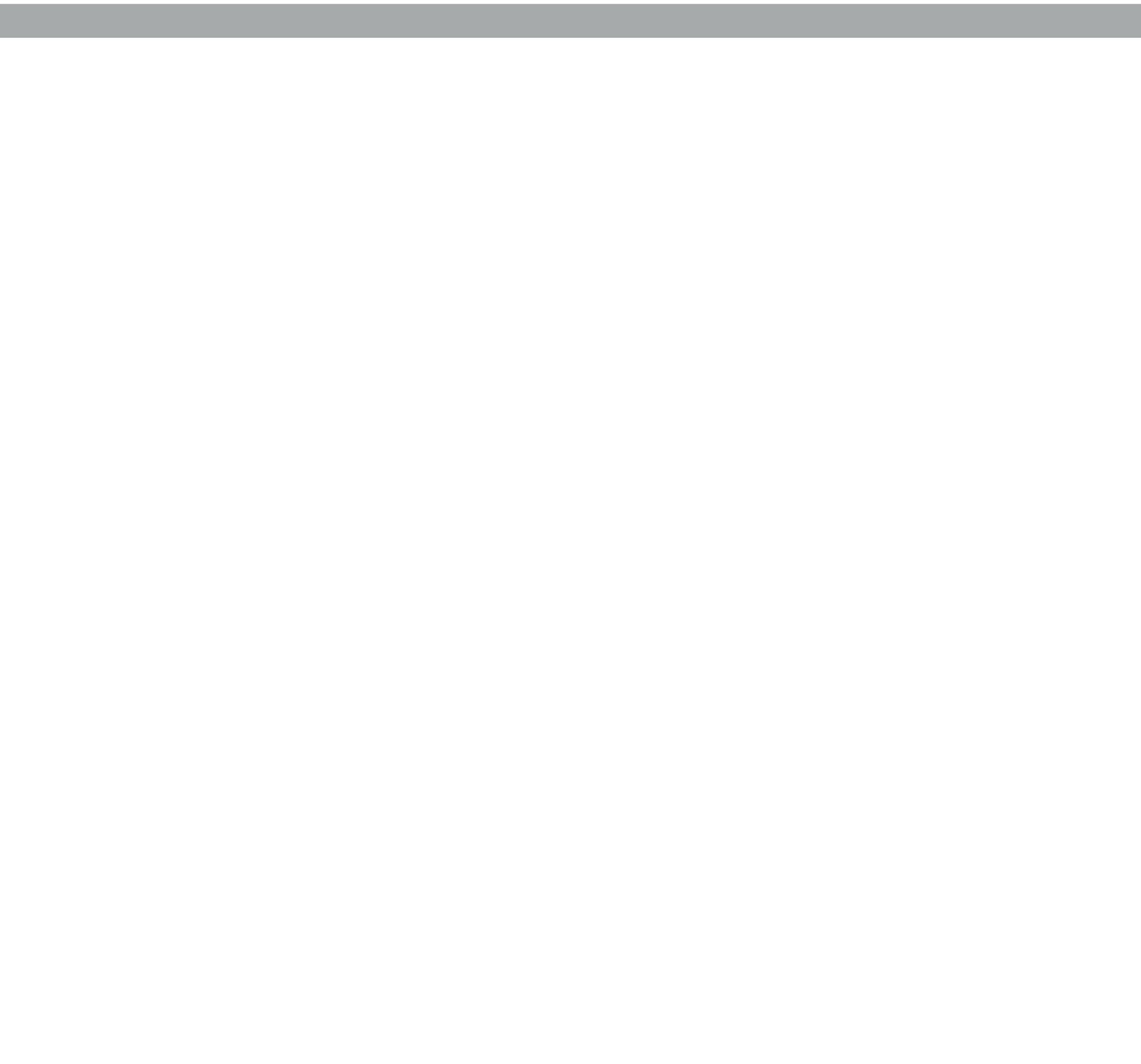
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CHANCES

DEVELOPMENT PATHS FOR THE WACHAU REGION





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Preface

The Danube region with its multicultural diversity, its highly varied spatial conditions (landscape) and its history is a complex planning matter in the context of all the countries neighboring the Danube, within the EU as well as outside. This gives rise to a long topic list of planning challenges requiring interregional and international cooperation.

In this book, master's students at TU Wien guided by professionals from the field of spatial planning have elaborated analyses and project ideas for the famous Wachau region in Lower Austria in the framework of the EU – Interreg-funded project DANURB-Danube Urban Brand. Thirty-nine partners from seven different Danubian countries are working together in this project to develop a spatio-cultural network that contributes to fostering a joint and sustainable development of all regions along the Danube.

The Austrian Danube region Wachau therefore served as a case study region where methods and processes of spatial planning were utilized together to test their transferability to other Danube regions. The planning process was well thought-out and started with an on-site research camp in Krems, where international and interdisciplinary student groups explored the region and worked together with the students from TU Wien on an analysis of the Wachau. This cooperation was essential to the success of this first project phase. Students learned from each other and exchanged their knowledge about spatial and urban planning from their home countries. The on-site research camp in Krems brought additional benefits for all participating project partners, who arranged research camps in other Danubian regions like Esztergom-Sturovo (HU-SK) and Backa Palanka and Golubac in Serbia following the example of Wachau.

Many planning-relevant tasks were elaborated taking the Wachau region as an example, beginning with the natural conditions and landscape, technical infrastructure and transport, settlement structures and building culture, right through to the local population and its social and administrative facilities and the local economic circumstances. After the analysis phase the students from TU Wien worked in more detail on the problems and challenges which arose for the Wachau as they developed project ideas.

This phase was embedded in an open, constructive process in which the three student teams alternated between working individually and in the plenum. At these plenary meetings, the ideas and the status of the work in progress were presented to all and discussed together, debating the pros and cons of the ideas, and whether there were similar ideas taking different approaches. The

development of this approach allowed planning tasks and challenges to be addressed in a holistic manner.

To complement the contextual elaborations, all findings of relevance for further treatment, the continuation of project ideas and the analysis of transferability were located as GIS coordinates and mapped. This is an important basis for all further project steps, international exchanges and awareness-raising, as well as facilitating understanding of the work done by TU Wien.

The following project ideas in this book aim to serve as a stimulus for further projects and development fields, not only in the Wachau, but throughout the whole Danube region.

Andreas Voigt
Helena Linzer
Julia Forster
Julia Pechhacker

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0.1

The DANUrB project and the Wachau region

0.1.1 The DANUrB Project

„DANUrB - a regional network building through tourism and education to strengthen the “Danube” cultural identity and solidarity.

On January 1st, 2017, thirty-nine partners from seven Danubian countries - Hungary, Slovakia, Austria, Croatia, Romania, Bulgaria and Serbia - officially started the project DANUrB - Danube Urban Brand. The main goal of the project, which is financially supported by the European Union, is to create a comprehensive spatio-cultural network, a “Danube Cultural Promenade” connecting all communities along the river, unifying these into one tourism destination brand, offering thematic routes and developing possibilities that can increase the number of visitors and can prolong their stay in the region.

Project partners from relevant universities, research and development centres, regional municipalities, cultural NGOs, tourism boards and professional market based agencies will create a network and common platform to work along a sustainable cultural and tourism strategy, proving that a common Danube urban brand can bring social and economic benefits at once. Very important in this process is that international knowledge and practice will be implemented in local conditions. The closest cooperation with communities and regional stakeholders from all Danube countries, creation of a common strategy based on individual approach and site specific, can guarantee durability of the project results expressed in sustainable maintenance of

Danube Cultural Promenade by local neighbours with economic independency on basis of boosted development of tourism and cultural industry.

Facts about DANUrB

Start date: 01.01.2017

End date: 30.06.2019

Budget in Euro:

- Overall: 2.703.844

- ERDF Contribution: 2.176.798,14

- IPA Contribution: 121.469,25

Call number: Call 1

Priority: Environment and culture responsible Danube region

Specific objective: Foster sustainable use of natural and cultural heritage and resources“

(Interreg-DANUrB, 2017)

0.1.2 The Wachau region

The Wachau region is located in Lower Austria, about 80 km west of Vienna, between Emmersdorf and Melk in the West and Krems and Mautern in the East. The Wachau consists of 14 municipalities. The total area of all municipalities together amounts to 364 km². The region has about 45.000 inhabitants.

The Wachau is one of the last places in Austria where the course of the Danube was not intervened by human activities. It is a 36 kilometre long water gap valley along the Danube River. Together with its specific building structure, the Wachau region is part of the UNESCO world heritage site.

The region is also a very well-known tourist region in Austria and famous for wine and apricots.



fig. 0.1

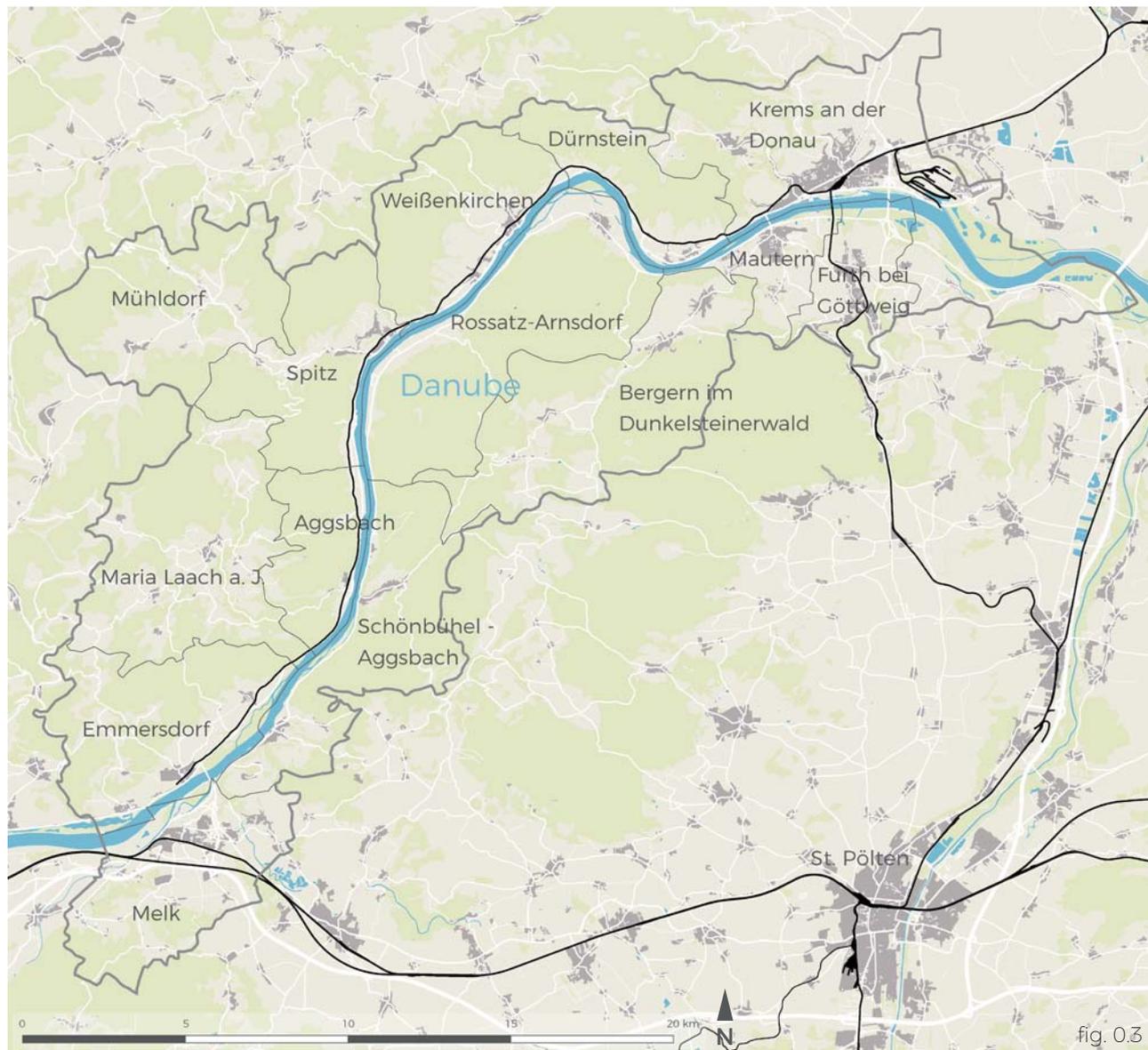


fig. 0.2

fig. 0.1 - Wachau valley at Aggsbach Markt

fig. 0.2 - Localisation of the Wachau Region in Austria

0.1 The DANUrB project and the Wachau region



Wachau region and its municipalities



The pictures show impressions of the Wachau region.

fig. 0.3 - Wachau region and its municipalities
 fig. 0.4 - Wachau impression - historic town Stein
 fig. 0.5 - Wachau impression - church of Spitz
 fig. 0.6 - Wachau impression - Melk abbey
 fig. 0.7 - Wachau impression - abbey and ruin Dürnstein

0.2

Methodology and terminology

0.2.1 Timetable and methodology

In the following pages the methodology as well as the time horizon of our project development is explained in detail. The creation process has been divided into different phases, from a joint

analysis to a wide range of project designs. Further details can be found in the following texts and graphics.



fig. 0.8

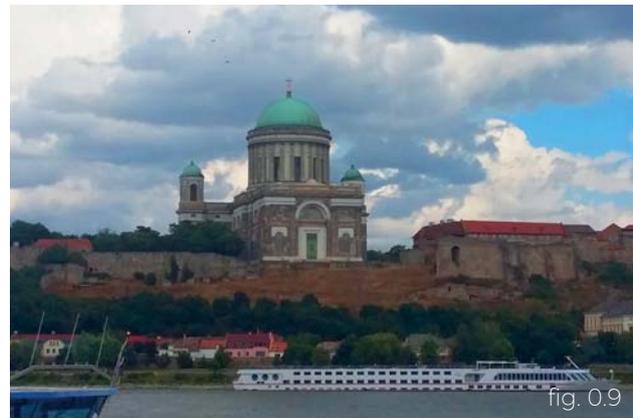


fig. 0.9

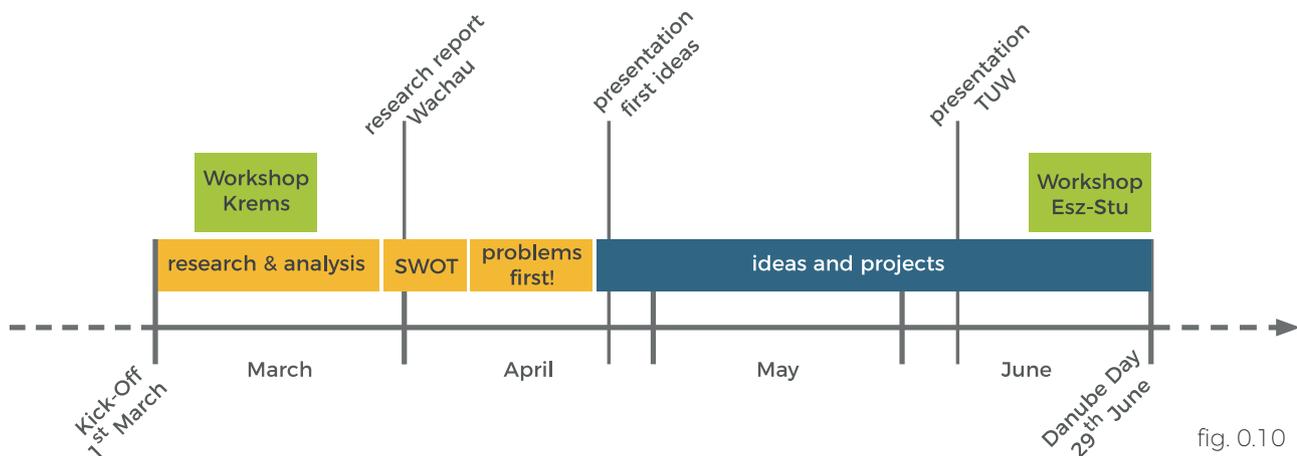


fig. 0.10

March

Workshop Krems

At the beginning of March the DANURB project began with a joint workshop of all participating universities in Krems an der Donau (Lower Austria). In this workshop the framework conditions of the project planning were presented and the Wachau introduced to the foreign students. At the end of the week the main results of certain analytical topics in small groups with students of every university were presented.

Research and analysis

After the workshop week in Krems research and analysis of the Wachau continued. The focus was on natural conditions and landscape, technical infrastructure, settlements, population and economics. The results were summarized in a joint report and used as an initial position.

April

SWOT

This type of analysis focuses on the strengths, weaknesses, chances and risks of the Danube region in the Wachau. It also attempts to identify and analyze the initial connections and causes of strengths, weaknesses, opportunities and risks.

Problems first

In order to develop a common understanding of the problems of the Wachau, the most important problems were filtered by brainstorming.

May

Ideas and projects

After the problem analysis had been completed, three project groups were formed which developed different visions for the Danube region Wachau. Each group focused on a chosen problem area and tried to counteract these problems with selected actions and projects.

June

Project finalisation

At the beginning of June all individual visions of the groups were revised and finalized. After the individual papers had been completed, a joint project report was prepared. After the final presentation at the Vienna University of Technology, the project groups presented posters and presentations for the final meeting in Esztergom (Hungary).

Workshop Esztergom

The students as well as the professors of the participating universities presented their results in various workshops as well as in exhibitions. Furthermore the focus was on learning from other ideas and to develop transferable implementations for other regions.

fig. 0.8 - Team photo at Danube University Krems

fig. 0.9 - View of Esztergom (basilica) from Štúrovo

fig. 0.10 - Project timeline

0.2.2 Terminology

At the beginning of the project, we have defined terms together to concretize what we mean by inaccurate terms. The definitions should help to set up the planning on the same conceptual understanding, to focus the main aspects and not to lose the planning goal.

Promenade

A promenade is an interaction and communication space. Here people can meet, see and can be seen. Promenade can be meant as the physical, built promenade along the Danube riverside, but also, and this is more important for the DANURB project, as a „communicational“ promenade, a network through all regions and countries.

Danube

The river Danube has characterised the region Wachau from the beginning of time, since the river has carved itself into the ground and a water gap valley has been formed. Thanks to this process a unique landscape and natural conditions emerged. The Danube has various functions in the region: it is a transport route, a natural habitat for thousands of animals, it is a connection through the whole region as well as a barrier which leads to a north-south discrepancy, and the river offers also a lot of opportunities for leisure time such as swimming and fishing. Despite the idyllic scene of the river Danube, the power of the stream should not be underestimated; the strength of the stream can harm the population and the cultural and natural landscape through floods and other natural hazards.

Landscape

Landscape means: “All the visible features of an area of land, often considered in terms of their aesthetic appeal.” (acc. to Oxford Dictionaries, 2017)

The landscape contains the nature or natural landscape as well as the cultural landscape. Natural landscape is predominantly influenced by a natural ecosystem, which is not directly affected by human activities. The cultural landscape is predominantly influenced by an anthropogenic (through human affected) ecosystem. (acc. to Akademie für Naturschutz und Landschaftspflege, 1991)

The landscape is defined by the topography, which is the arrangement of the natural and artificial physical features of an area. (acc. to Duden, 2017)

Every landscape consists of different landscape elements. In the Wachau the Danube is one of the most important elements. Because of the stream the Wachau is a water gap valley. The nature and the aesthetic appeal of the landscape are very important for the Wachau valley because they characterise the valley and its attraction. The landscape also defines the economic ground of the region because of its dependence on agriculture (especially wine-growing). Therefore it is very important to protect this good.

Culture

The term “culture” is often used in society and also all the different sciences. The word is used in a variety of ways without an exact determination. (acc. to bpb, 2017b) One definition of the term “culture” chosen by the UNESCO is:

„[Culture] is that complex whole which includes knowledge, beliefs, arts, morals, laws, customs, and any other capabilities and habits acquired by [a human] as a member of society.“ (acc. to UNESCO, 2017)

For our work within the DANURB project in the Wachau valley we think that the most important terms in connection with culture are building culture, planning culture, wine culture and culture of living. All of these terms are closely linked to the region. Most evident are the wine culture and the culture of living, because the Wachau has an incomparable landscape with the best requirements for wine growing. The wine, regional dishes and the way of living in the Wachau with its unique festivities are what make the Wachau so special. But also the building and planning culture with the way of building settlements and planning regulations to preserve the character of the valley are recognisable. Art as culture is especially in Krems located, the city offers a lot of museums and galleries. Another way how culture can be seen is the cultivated landscape in the Wachau. This landscape with its vineyards and orchards along the river Danube is unique in whole Austria.

Culture can also be defined as a created entirety made from a certain community on a certain territory during a certain époque. This entirety includes intellectual and artistic benefits as well as a system of rules and habits which guide the cohabitation and behaviour of human beings.

Tourism and marketing

Tourism includes all relations and appearances which arise from local change and the stay for a certain purpose of people for whom the place is not their durable place of residence or place of work. (acc. to Spektrum, 2017)

Tourism has positive and negative effects. (acc. to Nachhaltigkeit.de, 2017) The income through tourism as well as the image and the high standards for protecting the region can be seen positive in the Wachau. Negative is the mass tourism during the high season. Important for the Wachau and its sensible ecosystem is a sustainable tourism. Sustainable tourism preserves the integrity of the environment and its future prospects. (acc. to Nachhaltigkeit.de, 2017a)

Marketing are the activities of promoting the region, with the goal to increase the tourism, the image of the region and the degree of consumer awareness. (acc. to Wirtschaftslexikon Gabler, 2017).

Mobility

Within the DANUrB project we want to approach the topics of mobility, infrastructure and settlement development in an integrated way. Mobility should be accessible for every human being. To guarantee an accessible mobility with regard of the demographic development should be taken in consideration. Another important issue concerning mobility is the river Danube seen as a transportation route. With the harbour in Krems, the access to the motorway and to the rail system, a multimodal mobility can be accelerated.

Local population/inhabitants

The local population has to be participating in all projects and strategy ideas of the DANUrB project. With their local knowledge they are important stakeholders. Projects should make local and regional conditions of the region better for the local inhabitants.

Education

Mostly education is associated with the education of skilled workers which contribute to the competitive economy. But education can be seen in a completely different way. It also means the development of the personality. Knowledge should be passed on over generations. (acc. to bpb, 2017a) Education should be a lifelong learning process which is mostly is not focused on only one subject, education is an interdisciplinary development. Education also stimulates the awareness rising of difficult situations.

Throughout the last decades education has become more important. Education leads to a successful future. With the development of the World Wide Web, education is easily accessible by everybody. With these trends the term "culture of knowledge" is becoming more popular. (acc. to Zukunftsinstitut, 2017)

Sustainability and sustainable development

Sustainability means "The idea that goods and services should be produced in ways that do not use resources that cannot be replaced and that do not damage the environment." (acc. to Cambridge Dictionary, 2017)

"Sustainable development is development that improves the long-term health of human and ecological systems." (acc to. Wheeler, 1998)

Sustainability has to be taken under consideration in every aspect (social, economic, ecological). (acc. to Nachhaltigkeit.de, 2017b) Thoughtful planning and acting is important for the future. Sustainable development also means that the inhabitants must support plannings. (acc. to BMLFUW, 2017)

Strategy

„Strategy generally means the planned action of actors and institutions, which derives the determination of long-term goals from the analysis of external and internal framework conditions and combines the selection of short-term and flexible steps to achieve these goals.

Strategies thus represent a unit of the two control functions orientation and implementation“ (acc. to Kühn, 2008: 234)

Strategy means a „guideline“ for the future. For the DANURB project it is important to have strategies on different scales. On the one hand they have to be elaborated for local or regional development, but also for the whole Danube region.

0.3

Findings of the Wachau workshop,
topics for the Wachau,
major influences and challenges

0.3.1 On-site research camp

"The On-site research camp in Krems took place from 6th till 10th March 2017. The concept behind the research camp structure was to provide real-life experience and best practice examples of the culturally and touristically well-developed region of the UNESCO Cultural Landscape Wachau in combination with focused workshops of students and partners based on these inputs.

The indoor research activities and workshops were organized in the premises of the Danube University Krems and Campus Krems. The necessary substantial input for the common work of students and project partners was delivered in the first half of the week through a number of presentations of experts and local and regional stakeholders combined with excursions providing the real-life experience of the cultural landscape and understanding of cultural values and spatial structure of the region. These were additionally complemented by the screening of the movie ORF Universum: Land am Strome, which offered the characteristic images of the landscape, life and cultural events throughout the four seasons of the typical year in Wachau.

The On-site research camp in Krems was concluded by the public presentation of the results of the students' and project partners' workshops in the afternoon of Thursday, 9th March 2017 followed by an intercultural get-together in the evening." (DUK et al., 2017: 3)

0.3.2 Topics of the student's workshop

30 students from Austria (TUW - 9 students), Hungary (BME - 6 students), Slovakia (STU - 4 students) and Serbia (U-NS - 4 students, UBGD-FA - 7 students) participated in this research camp.

For the spatial exploration and analysis phase during the on-site research camp the students were divided into five teams, each team consisted of at least one student per university and country and had one of five topics for the research. The analysis topics were:

- nature and environment (natural conditions, landscape, climate)
- technical infrastructure (traffic, public transport, cycling infrastructure, shipping)
- settlements and villages (settlement structure, architectural heritage, protected zones)
- social and cultural conditions (population, social institutions, cultural activities)
- economy (agriculture, tourism, economic sectors)

(acc. to DUK et al., 2017: 29)

„The main topic for the workshop was to find together in the mixed teams and discuss about the excursion to find some important conditions, potentials and problems for the development of the region. All impressions and informations gained during the excursion were individually processed by each team according to the analysis topic and implemented in the presentations. Photos had been collected, maps and plans have been created, and the first slides

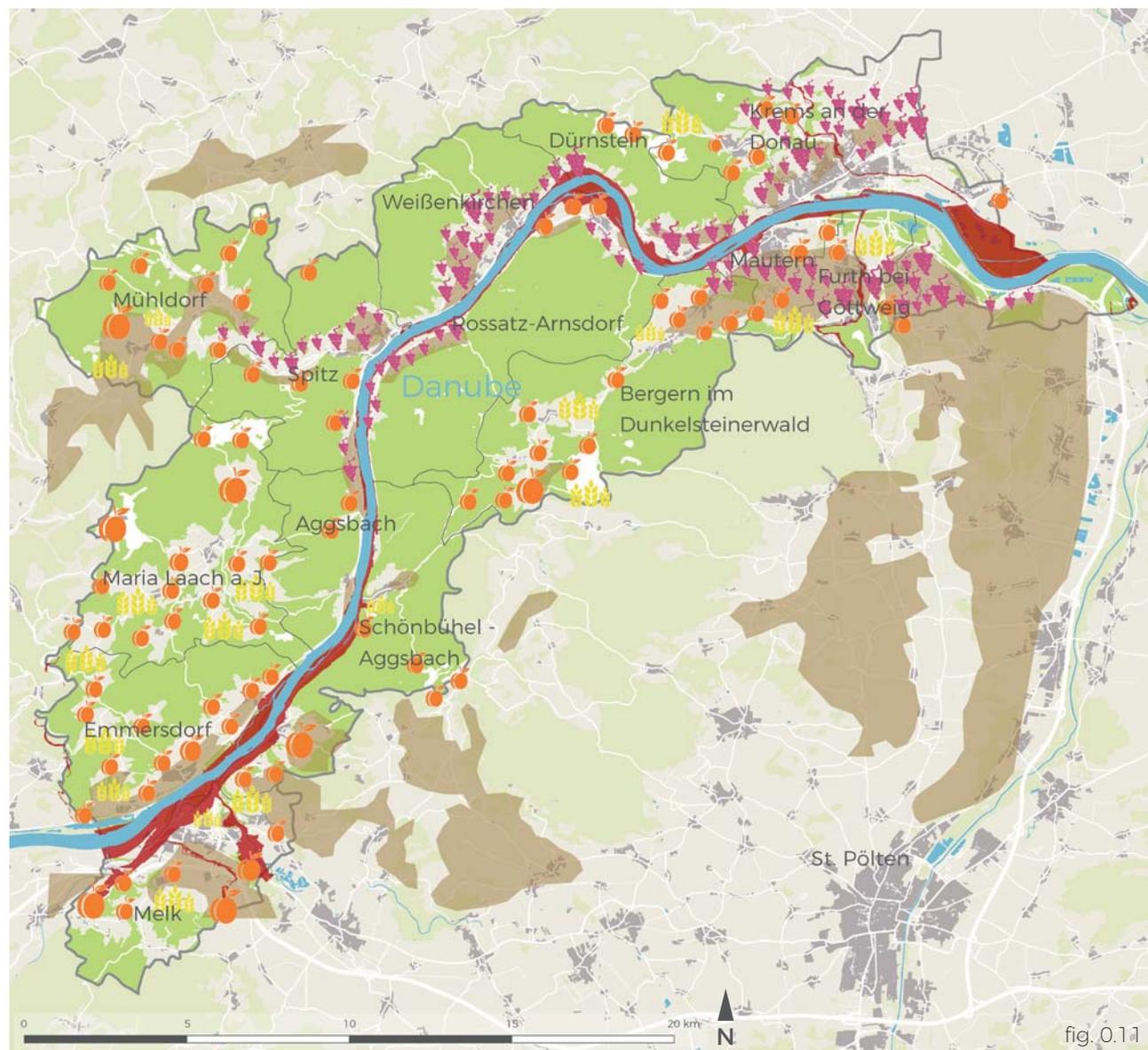
0.3.3 Findings of the Wachau workshop

for the presentation on Thursday had been prepared. [...] Important was the development of criterias, that can be used for the analysis of the different topics in every Danube region and the comparison of the different Danube regions, where the students came from by some examples of the development (projects, potentials or problems,...)." (DUK et al., 2017: 29) As already told, the presentation of this results took place on Thursday, 9th of March 2017 in Krems.

After the on-site research camp the students from TU Wien continued their work in the Wachau region and used the first results of the research camp, to intensify their analysis to the different research topics.

In the next step, maps of the problems in the Wachau were created, which depend on the basis of the findings from the analysis. It is an attempt to present and illustrate the problems of the five thematic analysis from the workshop. Brief explanations give an insight into the challenges in the Wachau.

0.3 Findings of the Wachau workshop, topics for the Wachau, major influences and challenges



Natural and agricultural problems

This map shows the conflict between the cultural landscape and the settlements. In the Wachau the surface area is limited due to the major role of viniculture and fruit-growing in the region. Furthermore a lot of parts of the surface are coated with forests. Those aspects lead to the conflict between the cultural landscape and the settlements. The municipalities have limited possibilities of settlement development. So instead of expanding the building area in the municipality other measures have to be found such as densification of existing houses and (re-) using vacant properties.

A very important part of the Wachau is the Danube river itself. It defines the region and its specific fauna and flora. But the river is also a constant threat because of the problems with floods. During the years 2002 and 2013 two

huge floods destroyed big parts of the valley. Therefore the region started to invest into a large flood protection system. But as the map shows there are still parts of the residential areas which aren't protected.

Another very common natural problem in the Wachau valley are landslides. Landslides are ground movements and occur when the ground is changing from a stable to an unstable one. For further planning's it is important to take those natural hazards under consideration and to set actions to prevent those hazards or at least to reduce those developments.



fig. 0.11 - Natural and agricultural problems

0.3 Findings of the Wachau workshop, topics for the Wachau, major influences and challenges

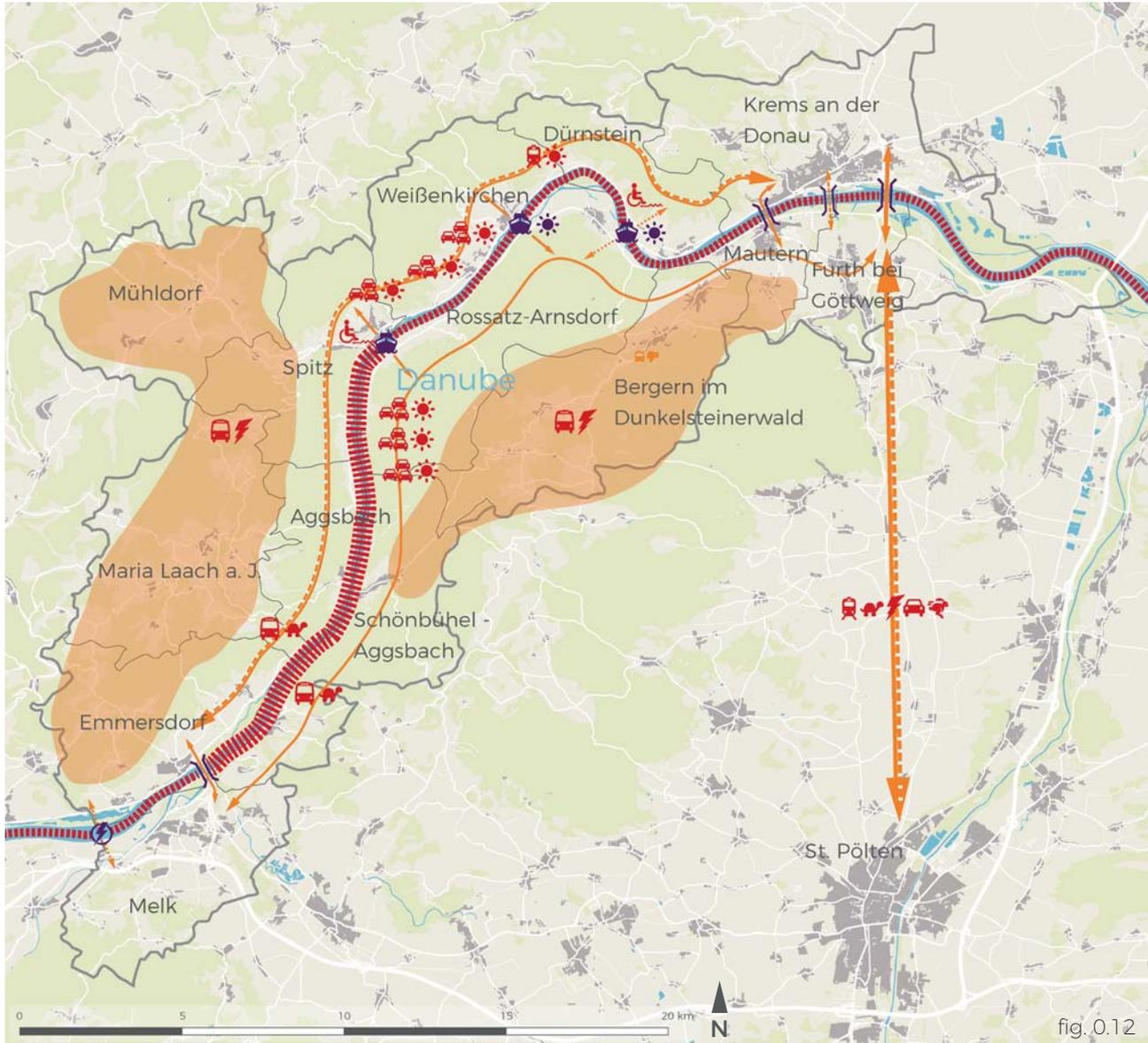


fig. 0.12

Traffic and technical infrastructure

As already described in the analytical report, many fields of technical infrastructure, such as

-  settlements
-  Danube as barriere
-  bridge
-  ferry
-  ferry (operation in high season)
-  water powerplant
-  connection for road vehicles
-  connection for rail-bound vehicles
-  connection for pedestrians and cyclists
-  slow train connection vs. fast car conn.
-  Wachaubahn (touristical operation only in high season)
-  bus connections with many/unprofitable stops
-  area with less/no offer of public transport
-  traffic jam (in high season)
-  not barriere-free cities (host. paving stones)

sewage and waste disposal or flood protection are developed to a very high level. The preservation and the further development in these fields is an ongoing task.

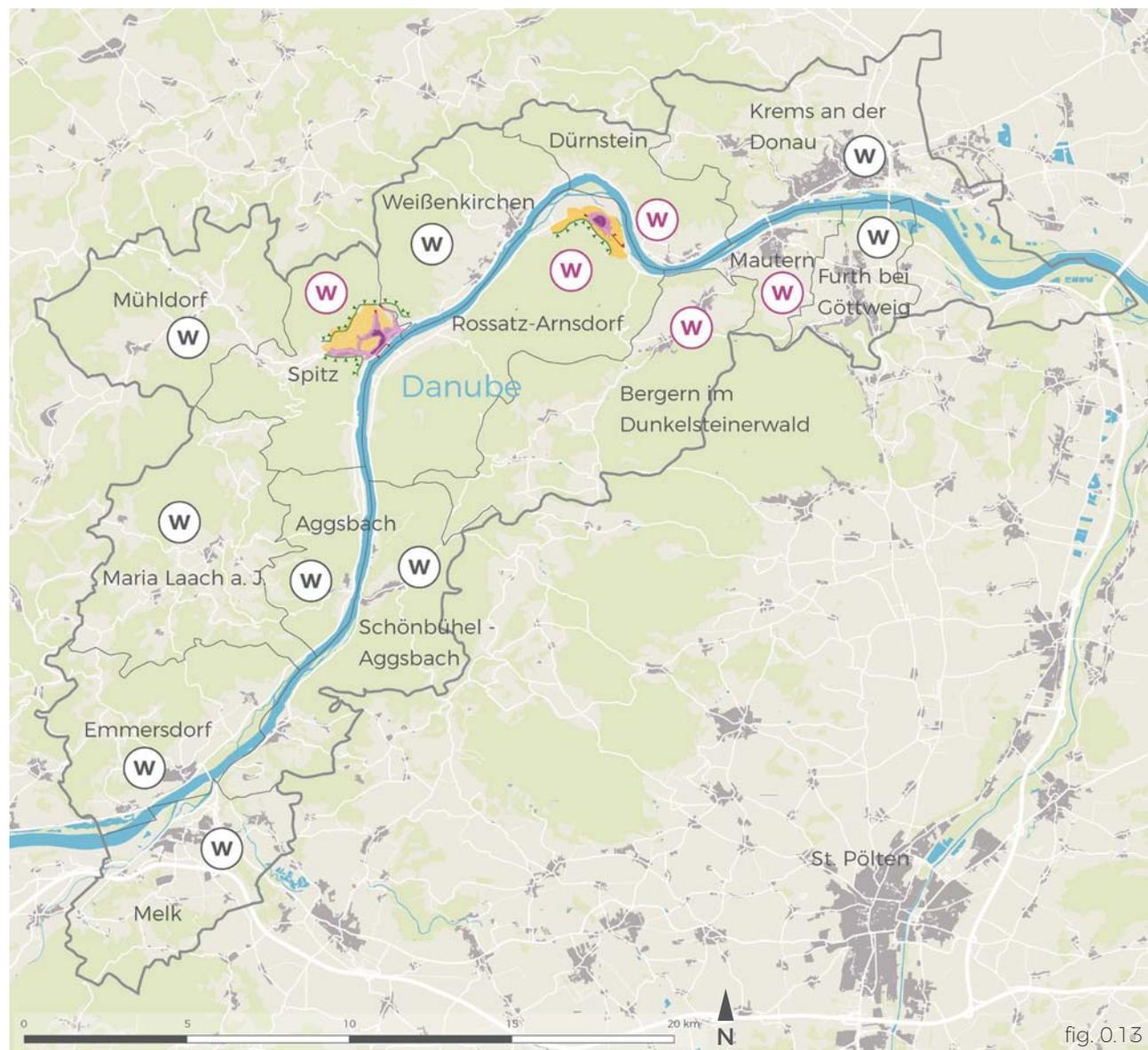
Nevertheless in other fields, especially ecological mobility and public transports there is room for improvement in the region.

In fig. 0.12 the central areas of action that have been defined during the analysis are displayed. Within the Wachau the Danube appears as a barrier, because the only bridges are on both ends of the river valley and two of the three ferries run only in summer season. Still the regions reachability via the road network can be considered well. The train connections to/from Melk via the Westbahn are very well developed, the service level to/from Krems to/from Vienna is adequate, but between Krems and St. Pölten, and within the region it is not competitive.

The majority of the employed persons in the region commute to Krems and some to Melk and Sankt Pölten. The public transport system within the region is primarily designed for these relations but does currently not (yet) enable people to live without a private vehicle. The provided service along the Danube is too slow and improvable and in some areas in the backland insufficient. Bicycle infrastructure is primarily designed for touristic needs and is improvable for the demands of commuters.

fig. 0.12 - Traffic and technical infrastructure

0.3 Findings of the Wachau workshop, topics for the Wachau, major influences and challenges



Settlement trends

A problem regarding the settlements, building culture and settlement structure is the topography, which is naturally conditioned. Due to the steep hills and the river there is not much area for settlement extensions left. Another problem are the settlement limits and so-called „Wachauzones“ that are given by law. These limitations protect the existing structures on the one hand, but mean also restrictions in the development on the other hand. The conflict in land use is problematically, because agricultural areas surround the settlement areas. If there is any settlement extension, agricultural land, mostly vineyards or apricot gardens, has to be reduced – although these areas are typical for the UNESCO world heritage site.

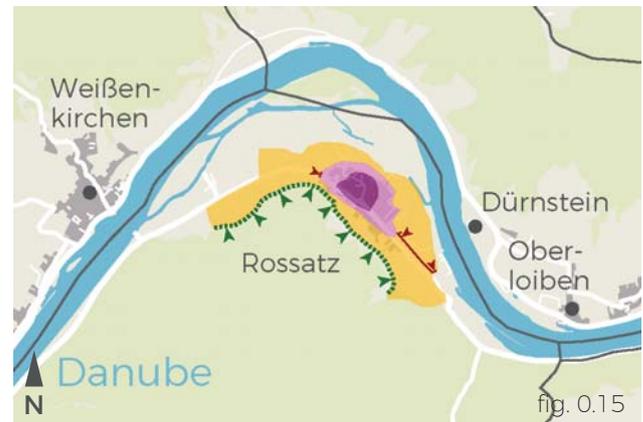
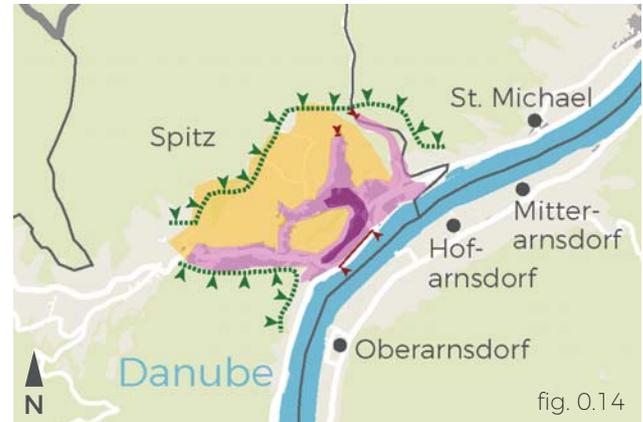


fig. 0.13 - Settlement trends
 fig. 0.14 - Detailed view of Spitz
 fig. 0.15 - Detailed view of Rossatz

0.3 Findings of the Wachau workshop, topics for the Wachau, major influences and challenges

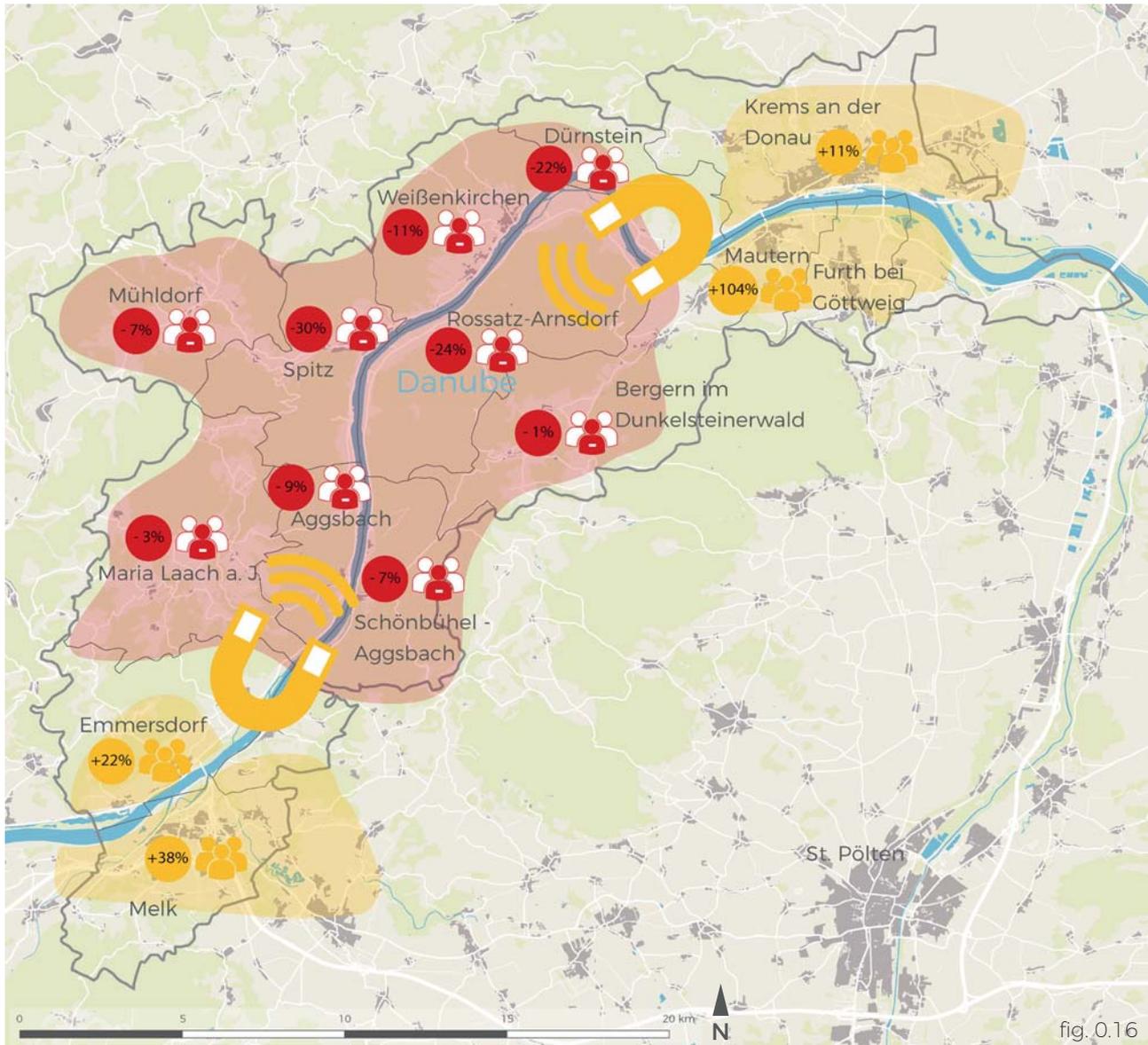


fig. 0.16

Population trends

The centres of the Wachau can be located on both ends of the Wachau. On the West side Melk and on the East side Krems. The population increases also mainly on the East and West side and the development orientates towards the ends of the Wachau. Concerning the settlement, it can be noted that the North river bank of the Danube is inhabited more densely than the South. This may be due to infrastructure developments, geographic and topographic localization or the historical background.

In the middle of the Wachau is on the one hand the periphery with small villages which have to register a strong population decrease up to 30 percent and on the other hand, the border communes around Krems and Melk increase as a result of the proximity to the cities. Especially Mautern has an increase rate of over hundred

percent in the last fifty years. However, also the cities themselves register a significant increase. The rural depopulation is in many peripheral regions in Austria a major issue which many communes have to deal with. The trends towards living in cities can be recognised due to the better opportunities to work as well as more attractive social infrastructure and leisure time activities.

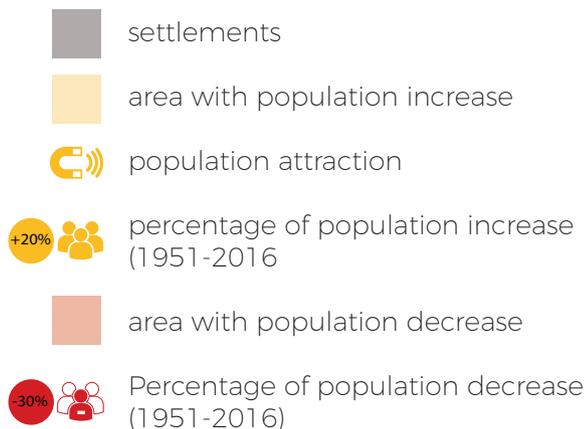
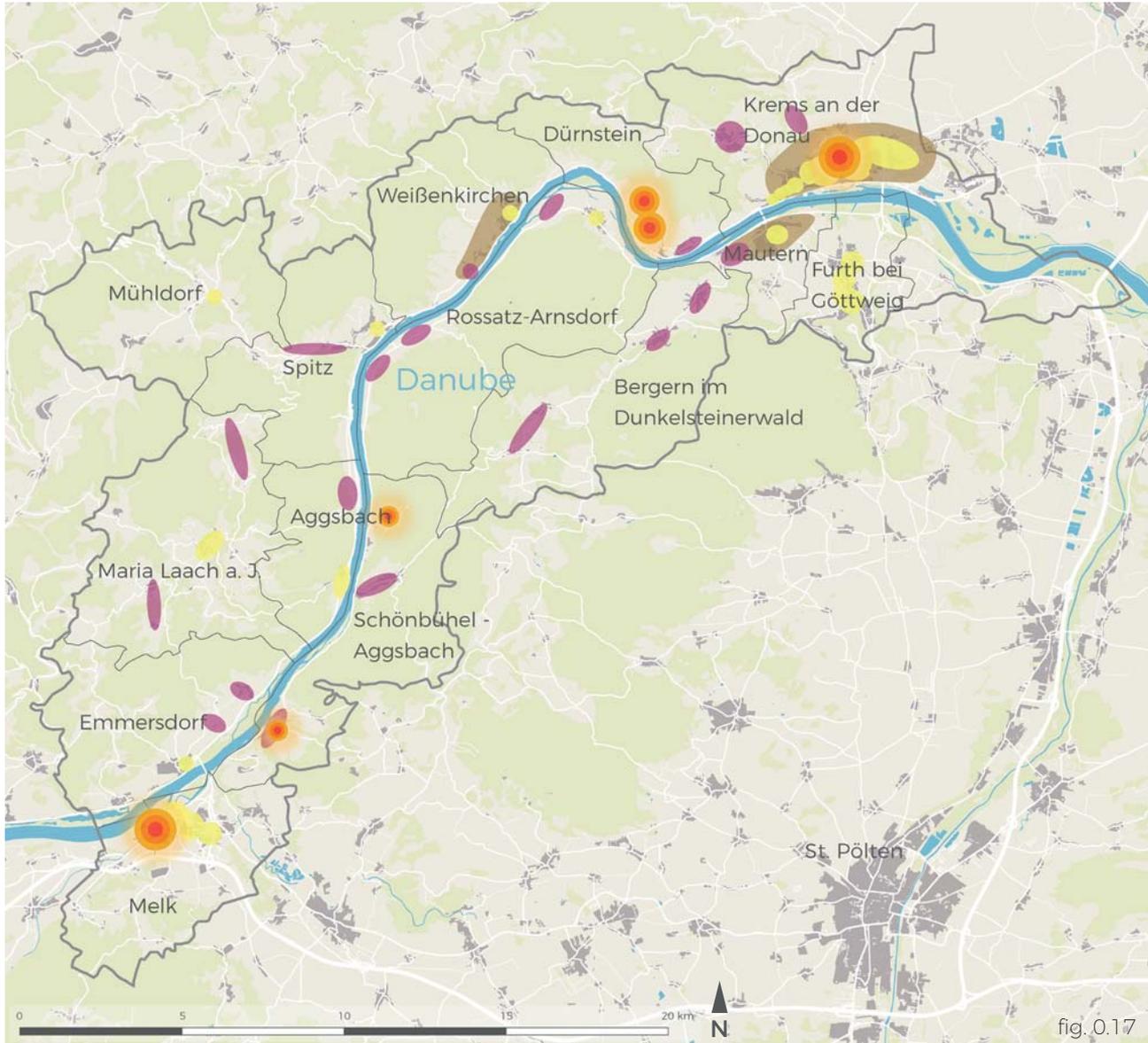


fig. 0.16 - Population trends

0.3 Findings of the Wachau workshop, topics for the Wachau, major influences and challenges



Economic trends

On this map, problems of the economy topic are located in the region.

The first big problem is the irregular distribution of local supply for daily-needed goods in the region. There are villages, which are good provided with local suppliers, but on the other hand there are a lot of settlements with an under-supply of local suppliers, especially little villages in higher areas and villages on the South Riverbank, for example Aggsbach.

The next point is, that there are many expensive areas to live in the region (marked as the brown areas). This shows a need of affordable building & living places.

The touristic hotspots are the concentric circles on the map. Many tourists are concentrated there, but in the whole region there is less supply of touristic attractions. This lead to the North/South discrepancy in the tourism season, which involves problems in traffic volume.



fig. 0.17 - Economic trends



fig. 0.18



fig. 0.21



fig. 0.19

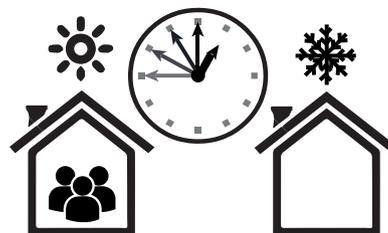


fig. 0.22



fig. 0.20

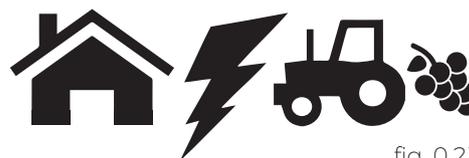


fig. 0.23

General problems in the Wachau region

In addition to the problems described above, which visualize the most important challenges and problems of the Wachau in the maps, further challenges are presented on the left. These icons represent problems which can not be clearly located and which affect more or less the entire Wachau region.

However, these issues, namely ageing population, floods, north/south discrepancy, nature restrictions, temporary vacancy, land use conflict must also be analyzed and elaborated. These topics include areas that are maybe not immediately recognized as a problem but are central and serious challenges, against which concrete measures have to be taken. For example, the temporary vacancies, floods or the aging population. Of course it is often not only the individual problems themselves, but the combination of several, which intensifies the situation in the individual municipalities or even in the whole Wachau.

- fig. 0.18 - Aging population
- fig. 0.19 - Floods
- fig. 0.20 - North/south discrepancy
- fig. 0.21 - Nature restrictions
- fig. 0.22 - Temporary vacancy
- fig. 0.23 - Land use conflict

0.3.4 Topics for the Wachau

Since it is of great importance to recognize the most essential fields of action with regard to our „Problems first“ approach, we had to review our collected impressions from the analyzes together.

During the analysis some topics emerged as particularly important. In order to review our perceptions, we began to collect these topics / concepts in a final step of our analysis (see fig. 0.24).

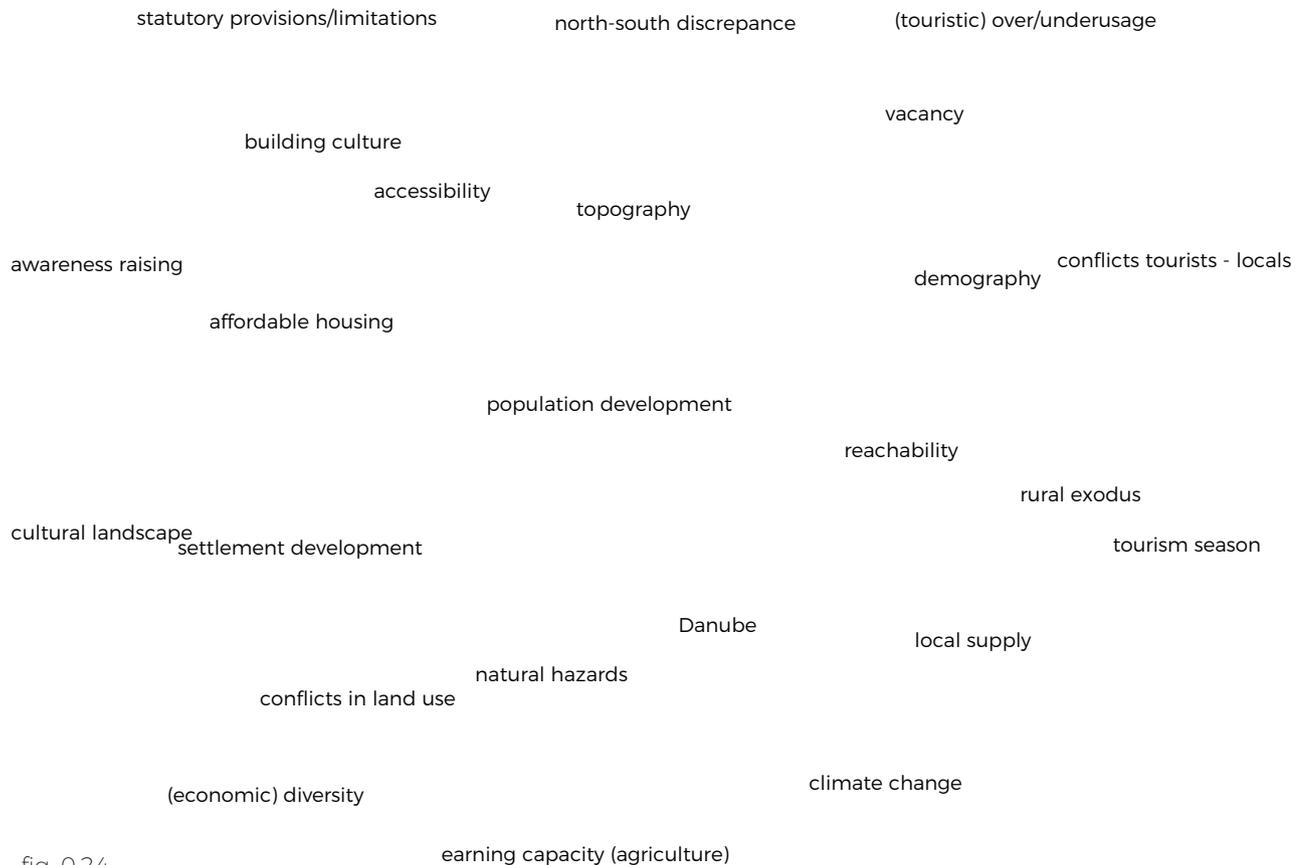


fig. 0.24

0.3.5 Influences of the topics

In a joint discussion, we then tried to determine the connections and dependencies between the topics. As a result, a network emerged from the loose terms in which the relationships between the topics became visible (see fig 0.25).

fig. 0.24 - Topics for the Wachau
fig. 0.25 - Influences of the topics

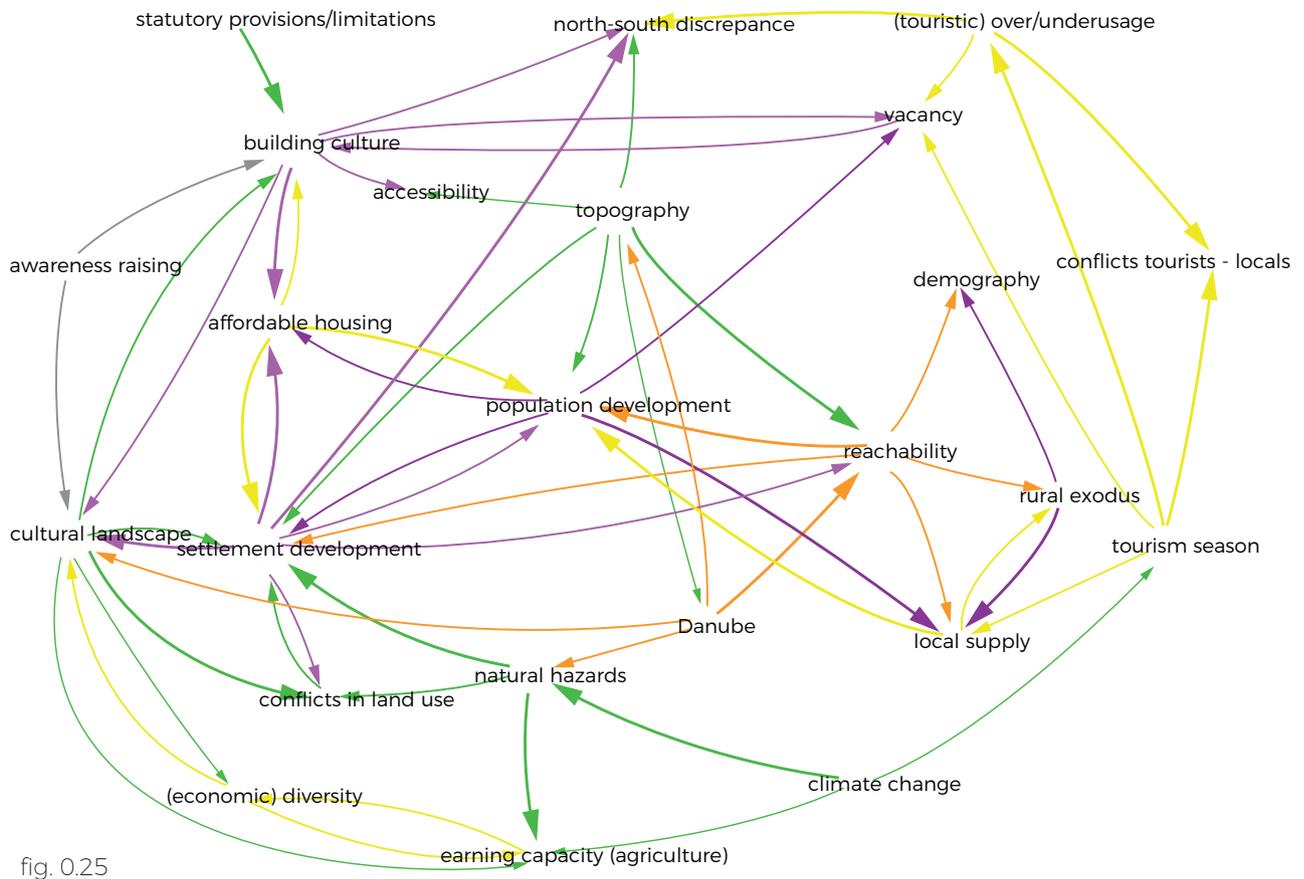


fig. 0.25

0.3.6 Major influences of the topics

Based on the numbers and weights of the connections, the most important fields of action for our projects could be determined - not just as „gut feeling“ - but also systematically (see fig 0.26).

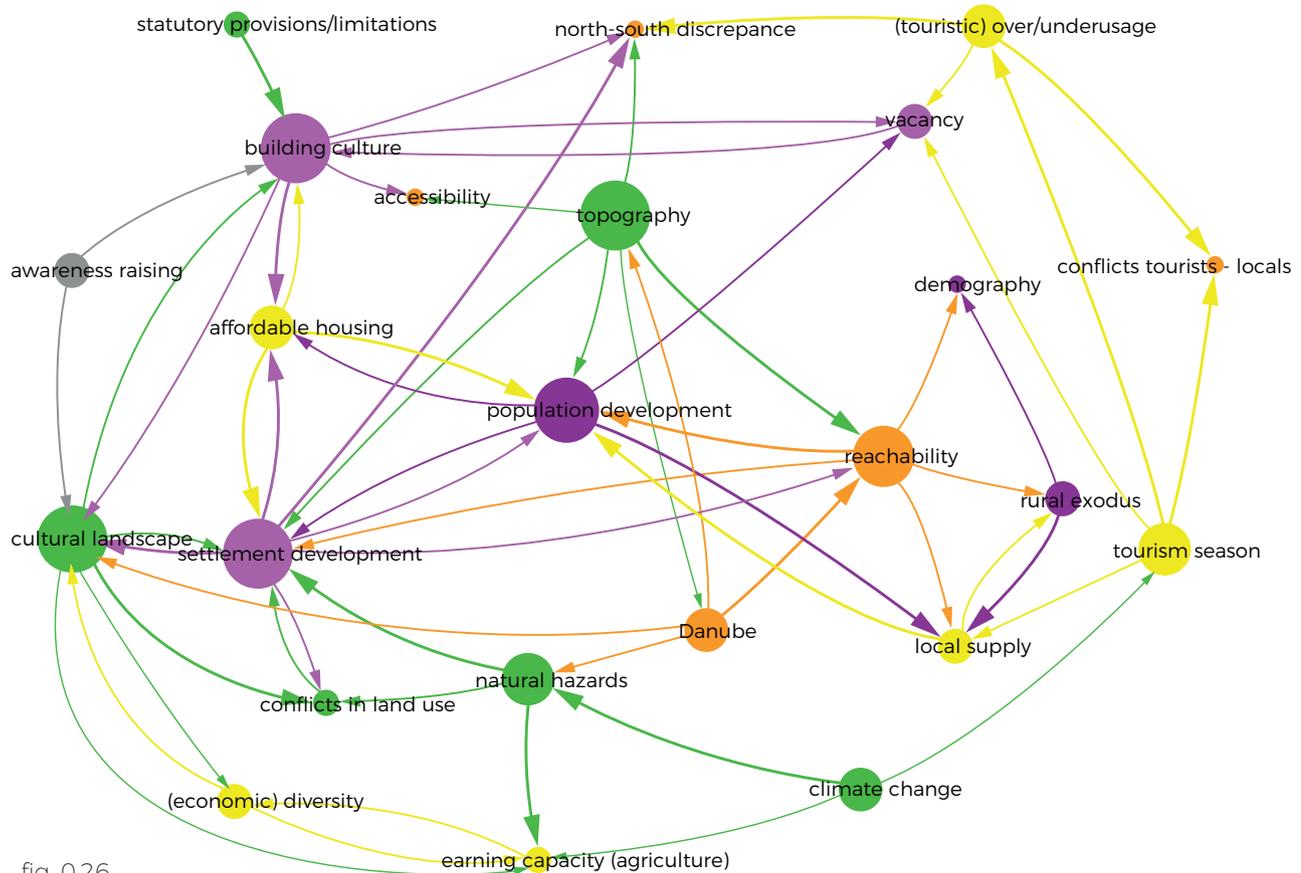
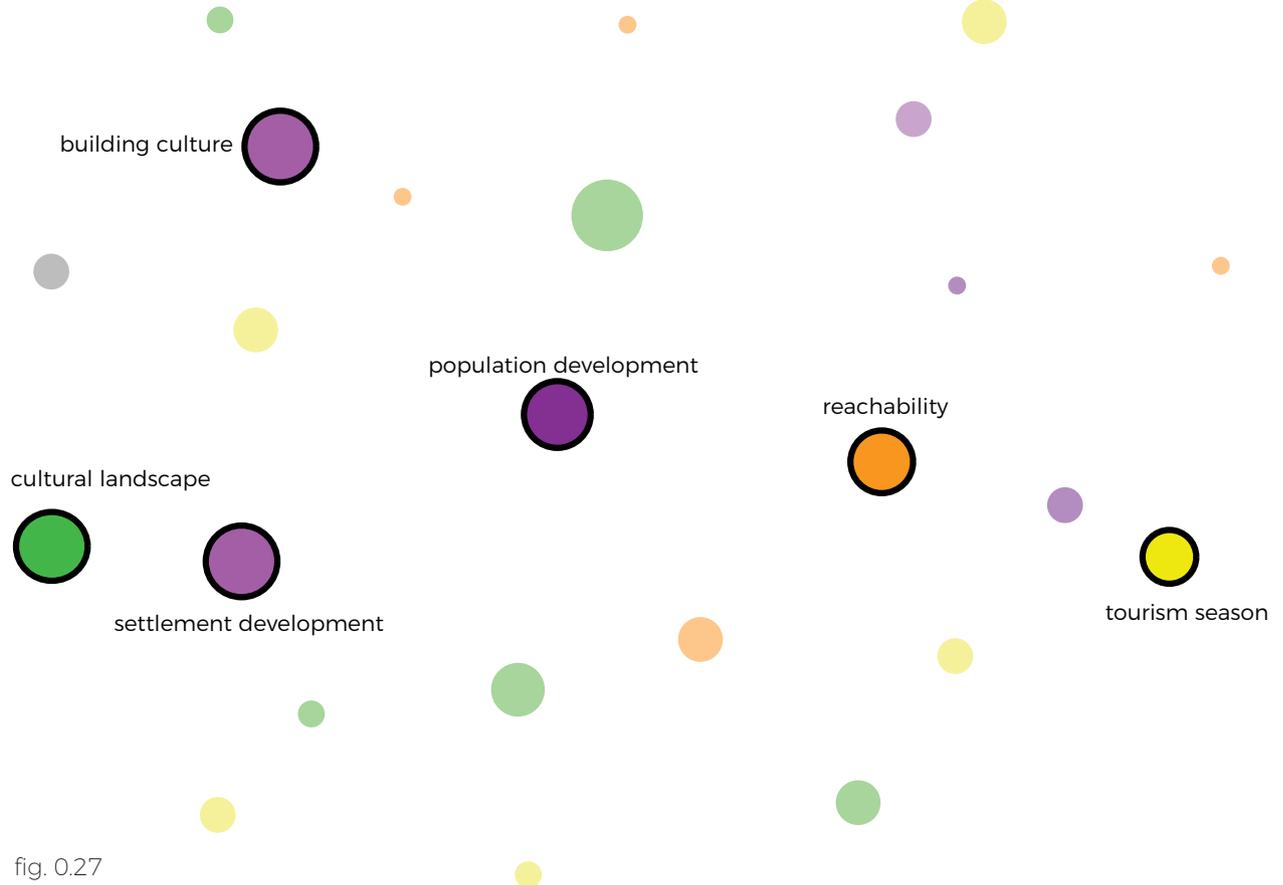


fig. 0.26

0.3.7 Major problems and challenges

In the following, these terms/topics are described in order to be able to develop our projects and measures.



Building culture & cultural landscape

Since the Wachau is a UNESCO World Heritage site due to its unique cultural landscape, the interplay between settlements and cultural landscape plays an important role.

A particular challenge is the further development of the region, which at the same time consciously and carefully deals with the heritage.

Population development

Demographic trends show an increasingly aging population in the region. While the two cities (Melk and Krems) are growing steadily at both ends of the region, societal and economic trends lead to migrations from the heart of the region. This leads to new challenges in terms of preserving social infrastructures (schools, nursing homes, day care centers), the coexistence of generations, but also in the labor market and the economy.

Settlement development

The settlement development is closely linked to population development. Also the building culture and the restrictions of the regulations of the world heritage site have a great influence on the development possibilities in the region. Another important factor in this context is the availability of building land and affordable housing, as many families cannot afford to live in the region anymore and migrate to the surrounding cities.

Reachability

Also the accessibility, reachability and the mobility in the region are big challenges in this context. How can the mobility of all age groups be designed to ensure independent living and working in the region for as many people as possible? How can mobility be made environmentally friendly, affordable and future-proof?

Tourism season

The region is very dependent on income from tourism. At the same time, it suffers from the negative effects of uneven seasonal burdens on localities over the year. The gentle development of the tourism structures in line with the needs of the local population is certainly one of the greatest challenges.

0.4

Planning teams

0.4.1 Three teams - three projects

After we have acquired knowledge about the major problems and challenges in the Wachau region we formed three groups working on different foci. The ideas and projects collected could also be applied to other regions along the Danube river, from Germany to Romania/Ukraine.

Mission Possible! Living in the Wachau

The first project "Mission possible! Living in the Wachau" faces with its project important challenges of the region. The preservation of valuable capital of the region and as well as its compatible and sustainable development under the aspect of the Unesco World Heritage. The villages in the region have mixed-used centers, that allow locals to live, work and spend their leisure time there. Tourists can spend their whole holidays without having to use their own car. In fact of these points a multimodal transport network should connect the centers and promotes healthy and environmentally friendly transport in the region.

The main goals are to reinstate the Wachaubahn as a public transport, to reorganise the regional public transport system and dense settlements around transport nodes. Therefore, the identification of infills/areas for densification and planning instruments is as well part of our project as building examples illustrating the feasibility of the ideas. This project should foster the identification of the local inhabitants with their region!



fig. 0.28 - Logo Mission Possible! Living in the Wachau
fig. 0.29 - Logo Danube Rivering
fig. 0.30 - Logo Unesco Wachau

fig. 0.28

Danube Rivering

The project “Danube Rivering” has the attention on reviving the region Wachau. The region should be strengthened in the already existing structures and should be enlarged in its regional strengths.

Therefore three projects are created to revive the region. The first - Dandering along the Danube - has its focus on establishing a promenade on both sides of the Danube, where natural and cultural specifics should be implemented along the river. The goal is to ensure the vertical and horizontal access to the river. In the second project - Exploring around the Danube - the focus lays on tourism. With an electric mobility system the transport volume should be reduced. Furthermore the tourism season should be splitted up over the whole year. The third project - Living at the Danube - consists of measures which should revive the region for the locals. The goals are to ensure the local supply, to pass the knowledge about the culture of living on to the next generation and to extend the local mobility. For a successful function it is important that the three projects are viewed as an overall picture rather than individually.



fig. 0.29

Unesco Wachau

The third project is named “Unesco Wachau” and discuss the foci of the traditional and natural structures, which should be integrated in a sustainable region for all generations.

This project has three vision parts: Vision I - Understanding Cultures - has the focus on the awareness raising for all generations, the creation of new opportunities for existing cultural assets and to sustain and develop the attractiveness of tourism. The possibilities and potentials of the Danube region should be shown especially for the young generation. The focus of the vision II - Establishing sustainability - is on affordable housing, new mobility concepts and to implement innovative supply networks in the municipalities along the Danube. The vision III - Connecting generations - turns the attention on attracting rural areas for all generations, an adapted social infrastructure for old and young and a settlement development based on the population.



fig. 0.30

0.4.2 The Project fact box

In the following project sections of the three groups, a uniform fact box (fig. 0.31) is used for the individual projects. It serves a brief overview of their goals, stakeholders, instruments, priority,

timescale, investment costs, running costs and the potential of participation. The values represented by the rating points are broken down in fig. 0.32.

Project title

Goals	Priority	<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
	Timescale	<input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>
Stakeholder	Investment costs	<input checked="" type="radio"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>
	Running costs	<input checked="" type="radio"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/>
Instruments	Potential of participation	<input checked="" type="radio"/>

fig. 0.31

Rating	Priority	Timescale	Investment costs	Running costs	Potential of participation
<input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Very low	< 1 year	< 10.000 €	< 10.000 €	Very low
<input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	Low	< 3 years	< 50.000 €	< 50.000 €	Low
<input checked="" type="radio"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/> <input type="radio"/>	Medium	< 5 years	< 200.000 €	< 200.000 €	Medium
<input checked="" type="radio"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input checked="" type="radio"/> <input type="radio"/>	High	< 10 years	< 500.000 €	< 500.000 €	High
<input checked="" type="radio"/>	Very High	> 10 years	> 500.000 €	> 500.000 €	Very High

fig. 0.32

fig. 0.31 - Project fact box

fig. 0.32 - Explanation of the fact box ratings

An abstract graphic on the left side of the page, consisting of numerous white circles of varying sizes and thin white lines connecting them, resembling a network or a cluster of data points. The background is a solid, bright yellow color.

MISSION ['mɪʃ(ə)n] POSSIBLE LIVING IN THE WACHAU

Stefan Bindreiter
Julia Pechhacker
Johannes Prieler

1.1

Mission possible! Living in the Wachau

1.1.1 Problems first!

As already described in the research report, which has been elaborated after the analysis phase, and in chapter 0,3 the main challenges in the Wachau region we found in the topics

- population development
with the rural exodus from the heart of the region and the ageing of the population,
- settlement development
with affordable housing (little building land),
building culture and statutory limitations,
- reachability (with public transports)
- north-south discrepancies
between the left and the right river bank and
- vacancies
both seasonal and permanent in the village centers.

But we also see the unlocked potential of the region and its towns and villages.



1.1.2 Our vision

The Wachau is a region where

- the villages have mixed-used centers, that allow local people to live, work and spend their leisure time in the region.
- tourists can spend their whole holidays without having to use their own car.

A multimodal transport network connects the centers and promotes healthy and environmentally friendly transport in the region.

Local inhabitants support regional cycles.

All our ideas should foster the identification of the local inhabitants with their region!

The slogan

All these thoughts above result in our slogan:

„Mission [ˈmɪʃ(ə)n] possible!
Living in the Wachau“

The slogan is kind of a wordplay, because „misch“ pronounced in Austrian dialect means „to mix“. And that is what we aim for:

Enable people in the Wachau to live and work there through mixed-use village centers and a multimodal transport network.

1.1.3 Our objectives / goals

Settlements

- strengthen the main villages of the municipalities
- connecting village centers to the Danube
- development, compatible to the World Cultural Heritage
- development on a regional scale in coordination with public transport

Traffic

- improvement of public transport
- improvement of bicycle infrastructure

Economy & tourism

- ensure local supply
- affordable housing
- mixed-use centers

Nature & environment

- preserve and develop cultural landscape
- preserve and create habitats to preserve and strengthen bio diversity

1.1.4 Our main projects

According to our slogan and vision the main projects focus on the development of dense settlements around transport nodes. Therefore the identification of infills / areas for densification and planning instruments is necessary.

The proposed reinstatement of the Wachaubahn as a public transport also requires a reorganisation of public transports in the Wachau.

Reinstate the “Wachaubahn” as a public transport:

The “Wachaubahn” is a currently only touristically used railway line on the north Danube riverside. To offer the local inhabitants the opportunity to commute to Krems or Melk (which are the most important commuter destinations in the region) by train, we consider the reinstatement of the “Wachaubahn”.

In close coordination with all other regional public transport lines and ferries across the Danube the new usage of this railway line allows multimodal, car-free mobility for all inhabitants and tourists in the region.

Reorganisation of (public) transports in the Wachau

Due to the disadvantageous reachability of several villages offside the riverbank on the hills, we suggest a reorganisation of the public transport system in the region.

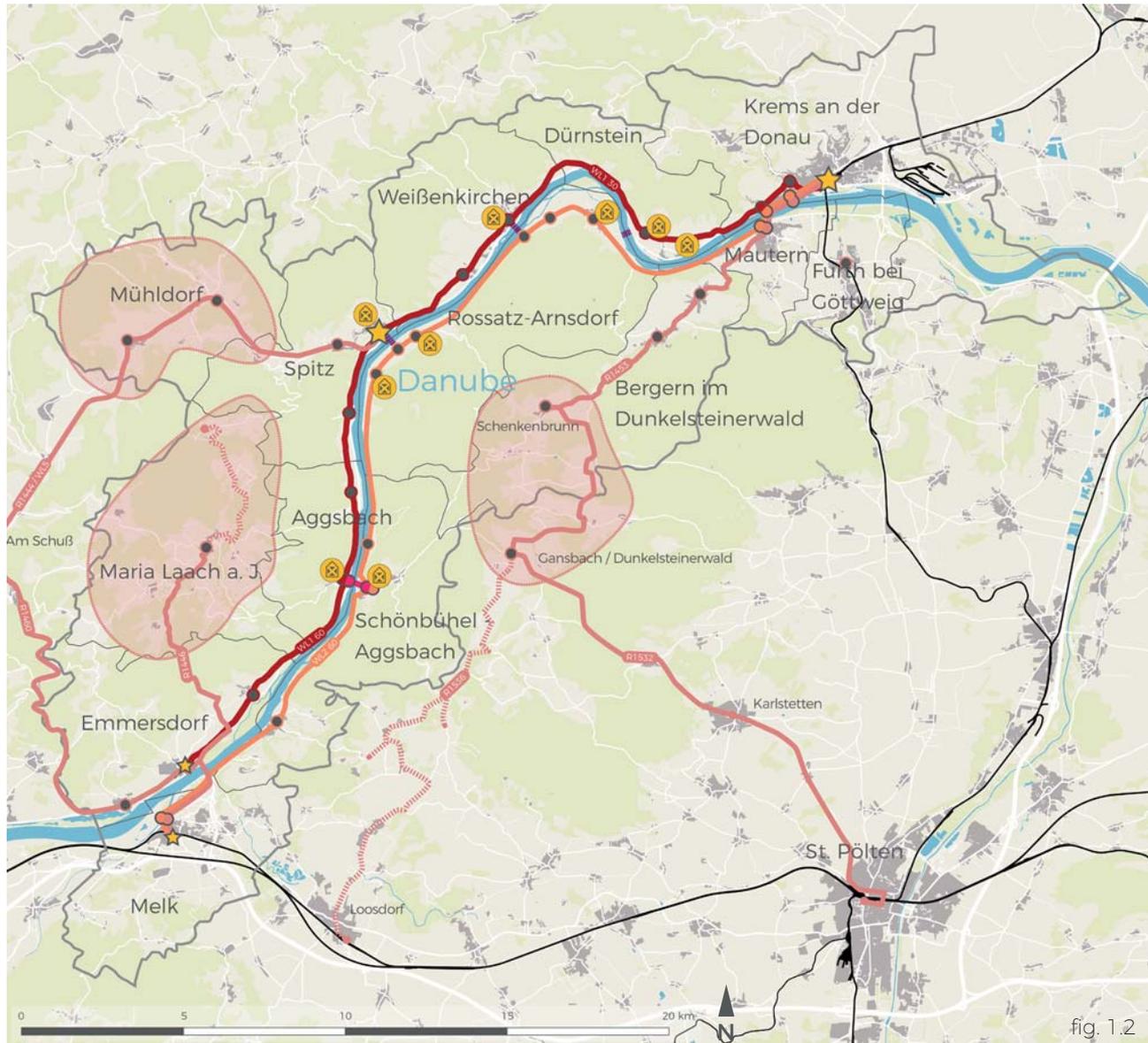
Thereby some buslines would be redirected and differently clocked. In addition to this step, the bicycle infrastructure, bike paths and parking or rental stations should be expanded.

Dense settlements around transport nodes:

Due to the limited building land and the challenging settlement development/extension, we showed building land reserves for selected municipalities, that are well accessed by public transport.

After that we proposed guidelines on how new buildings should be integrated into the existing structures. These were exemplarily implemented by a development project in the area of the train station in Spitz an der Donau.

1.1 Mission possible! Living in the Wachau



Localisation of projects and measures in the Wachau

In fig. 1.2 all of the projects described in the following chapters are displayed on a regional scale. In chapter 1.3 the identified plots for internal

-  (internal) village development
-  major mobility node (bike sharing, bike & ride, regional busses, train - 30/60 min clocked)
-  mobility node (multiple lines, bike sharing, bike & ride)
-  mobility node (village bus, bike sharing, bike & ride)
-  important destination outside Wachau region
-  Wachau-Bahn WL1 (30/60 min clocked)
-  bus line WL2 (60 min clocked)
-  regional bus lines (line schedule changed in course of the reinstatement of the Wachau-Bahn as public transport)
-  ferries
-  cable car Aggsbach Markt - Aggsbach-Dorf
-  village bus/"callaxi"
-  Danube

village development are displayed on a bigger scale on community level.

Please notice, that only the public transport lines are included in the map, that are to be changed / improved by our projects. Also not every stop of a transport-line is displayed on the map.

We defined „mobility nodes“ as public transport stops, that are better equipped and serve as transfer points between different modes of transport (eg. bike - train, bike - bus, bus - train,...)

fig. 1.2 - Localisation of projects and measures in the Wachau

1.2

Reinstatement of Wachaubahn as a public transport

1.2.1 Public transport in the Wachau

According to the planned reuse and stimulation of old train stations and settlement densification along public transport systems we've looked more precisely on the commuter and pupil movements in the region (see fig. 1.3, 4 and 5).

Current situation

The most important destination for commuters, students and pupils in the Wachau is the town of Krems and already at a great distance on second place the town of Melk. Both cities are „capital cities“ of their districts.

Almost 17000 persons have their job in Krems, almost 11000 are commuting to Krems. Half

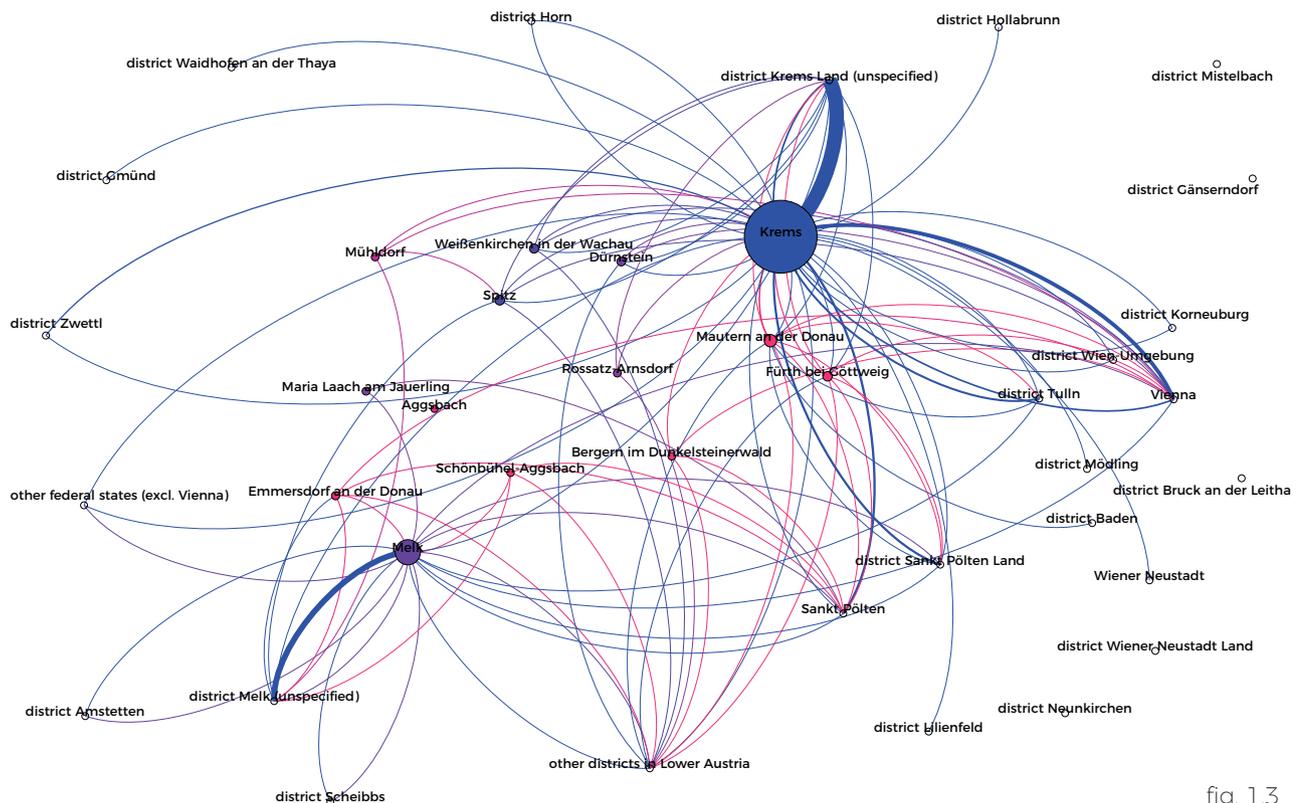


fig. 1.3

of the workforce of Krems (5k of 11k pers.) commutes out of Krems. The most important destinations outside the Wachau are Vienna (1372 pers.) and St. Pölten (850) and in the Wachau Mautern (123), Fürth b. Göttweig (87), Dürnstein (60) and Spitz (27). A lot more people in the Wachau are commuting to Krems. The top 5 places of origin are Mautern (575 pers.), Fürth b. Göttweig (438), Bergern (167), Spitz (154) and Weißenkirchen (134). Most commuters to Melk (from the Wachau villages) come from Emmersdorf (175), Schönbüchel-Aggsbach (118) and Maria Laach (60). (all data acc. to Statistik Austria, 2014-1 and Statistik Austria, 2014-2)

They are currently connected by two bus lines, the WL1 on the left river bank and WL2 right river bank. The busses run on an irregular schedule (but almost hourly in rush hours). Additional school busses run from the villages in the peripheral areas to Krems and Melk. A summary of all connections in and around the Wachau can be found in a folder „Mobility in the Wachau region“ (see VOR, 2017).

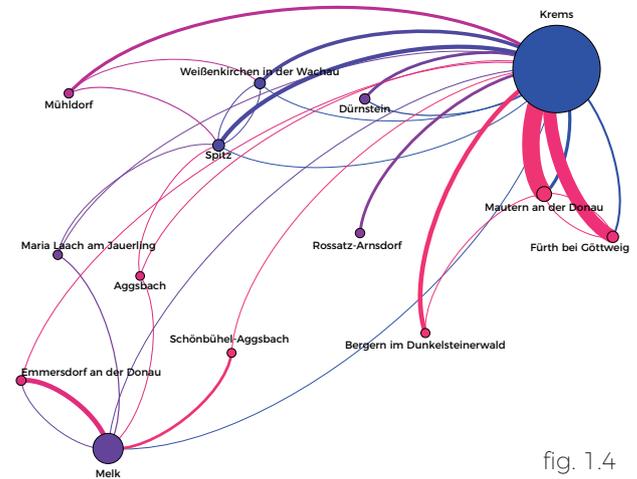
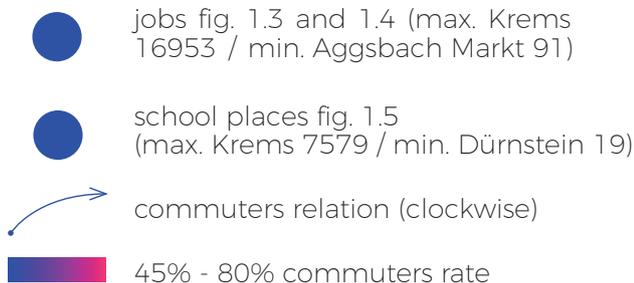


fig. 1.4

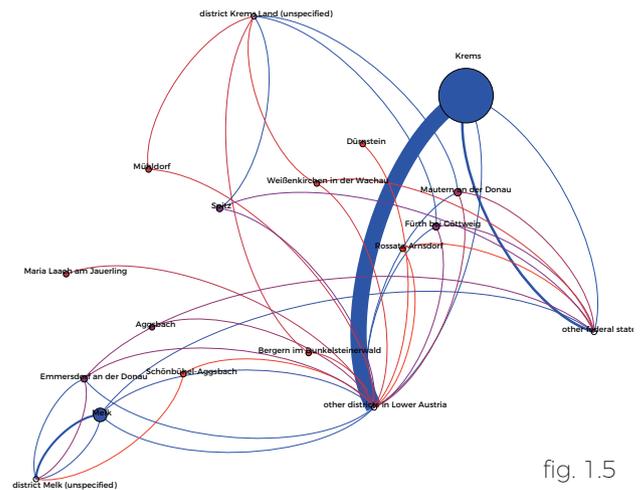


fig. 1.5

fig. 1.3 - Commuters (from/to the Wachau > 50 pers.)
 fig. 1.4 - Commuters (within the Wachau > 20 pers.)
 fig. 1.5 - Pupils commuting (within the W. > 15 pers.)

1.2 Reinstatement of Wachaubahn as a public transport

The Wachaubahn is currently used only as a touristic railway and runs only three times a day. It runs on the left river bank from Krems to Emmersdorf and reaches every village center.

Our goal is to establish the Wachaubahn as the “spine” of the public transport in the Wachau.

This could awaken the existing infrastructure with more life.

In addition, the railway - unlike the road connection along the Danube - would be flood-safe and also not prone to traffic situations.

Furthermore, the VCÖ (which is a NGO, that is committed to ecologically sound, socially just and economically efficient mobility in Austria) recommends the modernisation and reinstatement of local railroads (acc. to. VCÖ, 2017)

There are already true success stories in Austria of reinstated local railroads, like the Salzburger Lokalbahn, or the Pinzgau Bahn (www.salzburg-ag.at) that prove, that investments in local railroads lead to more passengers, less car traffic and overall to more efficient traffic systems, accessible to more people. More flexible working times in western societies demand also more service of the public transport, not only during rush hours. (acc. to. Salzburg-Verkehr.at, 2017)

Improving public transport

The basic idea to improve the system is, to make it faster (with less stops), but with transports running more often - at least once per hour on working days including Saturdays.

In addition, it is necessary to improve the so called “first mile” from the origin to the public transport and the “last mile” from the public transport to the final destination. So the infrastructure for pedestrians and especially for cyclists will be improved. Also the connections across the Danube will provide better services to the people living in the Wachau.

When reinstating the Wachaubahn as a public transport, there is also a need to reorganize the existing “Wachau (bus) lines” and some regional bus lines.

In some more secluded areas these measures will result in fewer stops and “less” service by regular bus lines. Therefore, all (bus/train) stops will be transformed to multi modal mobility nodes, that makes going by public transports more attractive.

In areas with very low population density and steeper terrain, there will be village busses (operated by non-profit organisations of the communities) that pick-up passengers on demand and carry them to the new mobility nodes. (see chapter 1.4.1 and 1.4.2)

Currently the operating company of the Wachaubahn, the NÖVOG (www.noevog.at) owns a fleet of five trains for the Wachaubahn as a tourist railway and offers three connections per day during summer season between Emmersdorf and Krems

carrying only 23.000 passengers a year. (acc. to. NÖVOG, 2015 and ORF, 2016)

The recommended new schedule in chapter 1.2.3 could be already operated with the existing fleet.

In order to ensure operation and to react to unforeseen circumstances, the purchase of at least two additional trains is nevertheless recommended. With future improvements of the tracks a shorter travel time of 45 to 50 minutes seems to be achievable and would reduce the necessary nr of trains down to three and would even reduce the costs more efficiently!

Improving the „last mile“

Most successful public transport systems have in common that they offer detailed information, easy accessibility and regular, tight intervals.

To this end, it is necessary to provide clear information about the travel times, to develop a simple ticket and tariff system and, above all, to make the entry into the system as attractive as possible and uncomplicated. Therefore improvements to the pedestrian and bicycle infrastructure are indispensable to make the change to bus or train as convenient as possible: Bus shelters and bike shelters at all major stops, an easy-to-use and bike-rental systems for both tourists and locals, real-time information on arrival/departure times and short connecting times are components of an attractive system.

Village buses fill the service gap in bad weather conditions or for people with reduced mobility. Multimodal mobility is promoted by

1.2.2 Better connections across the Danube

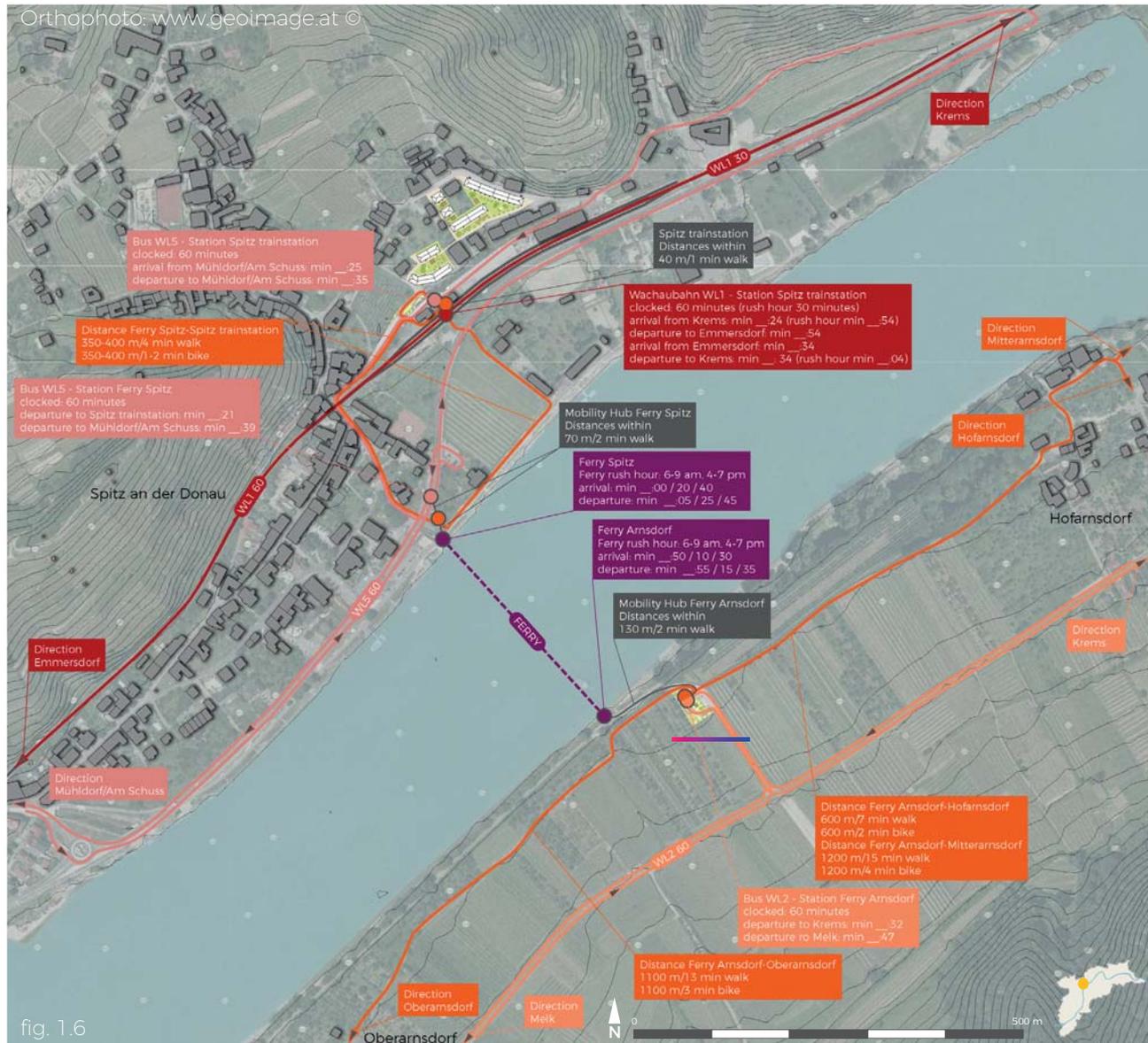
municipalities in the form of grants for taxi rides or the purchase of e-bikes.

The newly reinstated train line will act as the „spine“ of the public transport system in the Wachau and replaces the current bus line WL1.

During the rush hour in the morning and evening the trains run every 30 minutes between Spitz and Krems. On the whole line between Krems and Emmersdorf we suggest an hourly service.

On the following pages, the new schedule for the Wachaubahn on working days (including Saturdays are presented as well as the planned changes, which are intended as accompaniment measures for the reinstatement of the Wachaubahn.

1.2 Reinstatement of Wachaubahn as a public transport



Better connections across the Danube „Mobility hub“ Spitz - Arnsdorf

In fig. 1.6 the idea of connecting various kinds of public transports in Spitz and Arnsdorf is displayed. The figure shows the the new lines WL1 (Wachaubahn) coordinated with the existing lines WL5 (Spitz-Am Schuss), the ferry between Spitz and Arnsdorf and the WL2 (Krems-Melk) on the right river bank.

Building examples for the station areas on both river banks can be found in chapters 1.3.4 and 1.3.6.

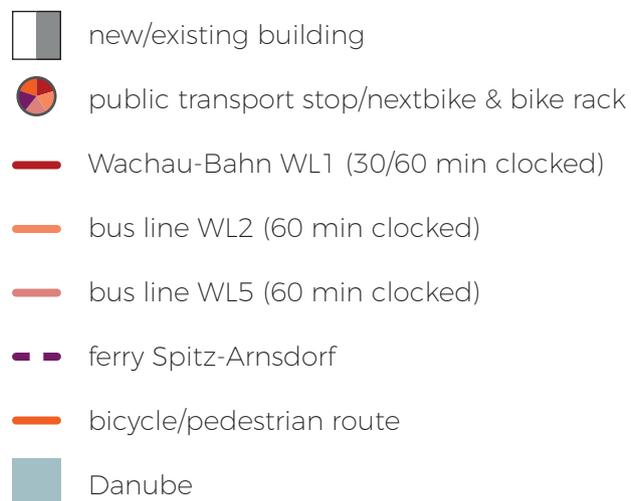


fig. 1.6 - Mobility hub Spitz - Arnsdorf

1.2 Reinstatement of Wachaubahn as a public transport

1.2.3 Wachaubahn „WL1“- Schedule

Suggested schedule of Wachaubahn „Emmersdorf - Spitz - Krems“ (working days Mo - Sa)

Emmersdorf		05:38	06:08		07:08		08:08		09:08		10:08	11:08	12:08	13:08	14:08	15:08	16:08
Grimsing		05:44	06:14		07:14		08:14		09:14		10:14	11:14	12:14	13:14	14:14	15:14	16:14
Aggsbach Markt		05:52	06:22		07:22		08:22		09:22		10:22	11:22	12:22	13:22	14:22	15:22	16:22
Willendorf		05:56	06:26		07:26		08:26		09:26		10:26	11:26	12:26	13:26	14:26	15:26	16:26
Schwallenbach		05:59	06:29		07:29		08:29		09:29		10:29	11:29	12:29	13:29	14:29	15:29	16:29
Spitz	05:34	06:04	06:34	07:04	07:34	08:04	08:34	09:04	09:34	10:04	10:34	11:34	12:34	13:34	14:34	15:34	16:34
Wösendorf-Joching	05:41	06:11	06:41	07:11	07:41	08:11	08:41	09:11	09:41	10:11	10:41	11:41	12:41	13:41	14:41	15:41	16:41
Weißkirchen	05:44	06:14	06:44	07:14	07:44	08:14	08:44	09:14	09:44	10:14	10:44	11:44	12:44	13:44	14:44	15:44	16:44
Dürnstein-Oberloiben	05:51	06:21	06:51	07:21	07:51	08:21	08:51	09:21	09:51	10:21	10:51	11:51	12:51	13:51	14:51	15:51	16:51
Unterloiben	05:56	06:26	06:56	07:26	07:56	08:26	08:56	09:26	09:56	10:26	10:56	11:56	12:56	13:56	14:56	15:56	16:56
Stein-Mautern	06:02	06:32	07:02	07:32	08:02	08:32	09:02	09:32	10:02	10:32	11:02	12:02	13:02	14:02	15:02	16:02	17:02
Krems Campus-Kunstmeile	06:05	06:35	07:05	07:35	08:05	08:35	09:05	09:35	10:05	10:35	11:05	12:05	13:05	14:05	15:05	16:05	17:05
Krems Bhf	06:08	06:38	07:08	07:38	08:08	08:38	09:08	09:38	10:08	10:38	11:08	12:08	13:08	14:08	15:08	16:08	17:08

Emmersdorf	17:08		18:08		19:08		20:08	21:08	22:08	23:08
Grimsing	17:14		18:14		19:14		20:14	21:14	22:14	23:14
Aggsbach Markt	17:22		18:22		19:22		20:22	21:22	22:22	23:22
Willendorf	17:26		18:26		19:26		20:26	21:26	22:26	23:26
Schwallenbach	17:29		18:29		19:29		20:29	21:29	22:29	23:29
Spitz	17:34	18:04	18:34	19:04	19:34	20:04	20:34	21:34	22:34	23:34
Wösendorf-Joching	17:41	18:11	18:41	19:11	19:41	20:11	20:41	21:41	22:41	23:41
Weißkirchen	17:44	18:14	18:44	19:14	19:44	20:14	20:44	21:44	22:44	23:44
Dürnstein-Oberloiben	17:51	18:21	18:51	19:21	19:51	20:21	20:51	21:51	22:51	23:51
Unterloiben	17:56	18:26	18:56	19:26	19:56	20:26	20:56	21:56	22:56	23:56
Stein-Mautern	18:02	18:32	19:02	19:32	20:02	20:32	21:02	22:02	23:02	00:02
Krems Campus-Kunstmeile	18:05	18:35	19:05	19:35	20:05	20:35	21:05	22:05	23:05	00:05
Krems Bhf	18:08	18:38	19:08	19:38	20:08	20:38	21:08	22:08	23:08	00:08

Working days Mo - Sa

Five Trains

A, B, C, D, E

First train to Krems

from Spitz 05:34

from Emmersdorf 05:38

Last train to Krems

from Spitz 23:34

from Emmersdorf 23:08

clocked

30 min Krems - Spitz

60 min Krems - Emmersdorf

Suggested schedule of Wachaubahn „Krems - Spitz - Emmersdorf“ (working days Mo - Sa)

Krems Bhf	05:50	06:20	06:50	07:20	07:50	08:20	08:50	09:20	10:20	11:20	12:20	13:20	14:20	15:20	16:20	16:50	17:20
Krems Campus-Kunstmeile	05:53	06:23	06:53	07:23	07:53	08:23	08:53	09:23	10:23	11:23	12:23	13:23	14:23	15:23	16:23	16:53	17:23
Stein-Mautern	05:56	06:26	06:56	07:26	07:56	08:26	08:56	09:26	10:26	11:26	12:26	13:26	14:26	15:26	16:26	16:56	17:26
Unterloiben	06:02	06:32	07:02	07:32	08:02	08:32	09:02	09:32	10:32	11:32	12:32	13:32	14:32	15:32	16:32	17:02	17:32
Dürnstein-Oberloiben	06:07	06:37	07:07	07:37	08:07	08:37	09:07	09:37	10:37	11:37	12:37	13:37	14:37	15:37	16:37	17:07	17:37
Weißkirchen	06:14	06:44	07:14	07:44	08:14	08:44	09:14	09:44	10:44	11:44	12:44	13:44	14:44	15:44	16:44	17:14	17:44
Wösendorf-Joching	06:17	06:47	07:17	07:47	08:17	08:47	09:17	09:47	10:47	11:47	12:47	13:47	14:47	15:47	16:47	17:17	17:47
Spitz	06:24	06:54	07:24	07:54	08:24	08:54	09:24	09:54	10:54	11:54	12:54	13:54	14:54	15:54	16:54	17:24	17:54
Schwallenbach	06:29	06:59		07:59		08:59		09:59	10:59	11:59	12:59	13:59	14:59	15:59	16:59		17:59
Willendorf	06:32	07:02		08:02		09:02		10:02	11:02	12:02	13:02	14:02	15:02	16:02	17:02		18:02
Aggsbach Markt	06:36	07:06		08:06		09:06		10:06	11:06	12:06	13:06	14:06	15:06	16:06	17:06		18:06
Grimsing	06:44	07:14		08:14		09:14		10:14	11:14	12:14	13:14	14:14	15:14	16:14	17:14		18:14
Emmersdorf	06:50	07:20		08:20		09:20		10:20	11:20	12:20	13:20	14:20	15:20	16:20	17:20		18:20

Krems Bhf	17:50	18:20	18:50	19:20	19:50	20:20	21:20	22:20	23:20	00:20
Krems Campus-Kunstmeile	17:53	18:23	18:53	19:23	19:53	20:23	21:23	22:23	23:23	00:23
Stein-Mautern	17:56	18:26	18:56	19:26	19:56	20:26	21:26	22:26	23:26	00:26
Unterloiben	18:02	18:32	19:02	19:32	20:02	20:32	21:32	22:32	23:32	00:32
Dürnstein-Oberloiben	18:07	18:37	19:07	19:37	20:07	20:37	21:37	22:37	23:37	00:37
Weißkirchen	18:14	18:44	19:14	19:44	20:14	20:44	21:44	22:44	23:44	00:44
Wösendorf-Joching	18:17	18:47	19:17	19:47	20:17	20:47	21:47	22:47	23:47	00:47
Spitz	18:24	18:54	19:24	19:54	20:24	20:54	21:54	22:54	23:54	00:54
Schwallenbach		18:59		19:59		20:59	21:59	22:59	23:59	
Willendorf		19:02		20:02		21:02	22:02	23:02	00:02	
Aggsbach Markt		19:06		20:06		21:06	22:06	23:06	00:06	
Grimsing		19:14		20:14		21:14	22:14	23:14	00:14	
Emmersdorf		19:20		20:20		21:20	22:20	23:20	00:20	

Working days Mo - Sa

Five Trains

A, B, C, D, E

First train

to Spitz 05:50

to Emmersdorf 05:50

Last train

to Spitz 00:20

to Emmersdorf 23:20

clocked

30 min Spitz - Krems

60 min Emmersdorf - Krems

1.2 Reinstatement of Wachaubahn as a public transport

To provide that quality of service an active fleet of five trains is necessary. For an hourly service a fleet of three trains would be enough. Two trains have their nightstop in Emmersdorf, two in Spitz and one train in Krems. Train „C“ and „E“ have an additional day-stop in Krems between the rush-hours.

The routes of the trains are ever-changing, so that every train is alternating one day on a „long shift“ and another day on a „short shift“, which allows regular service and cleaning work.

Example:

Trains starting from

Train A Krems

Train B Spitz

Train C Emmersdorf

Train D Emmersdorf

Train E Spitz

A starts from Krems and ends up in Emmersdorf and can operate on either a short shift (**C**) or a long shift (**D**) the next day.

C starts from Emmersdorf and ends up in Spitz and can operate on either a short shift (**E**) or a long shift (**B**) the next day.

...



fig. 1.7

Effects on the current WL1 service area

Compared to the Wachaubahn schedule, the count of stops of the current WL1 bus lines is almost 2.5 times higher. Some of the stops, who „lost“ the WL1-connection will receive higher service by other bus lines with coordinated schedules (see further measures). All the stops of the Wachaubahn will be improved with new infrastructures (bike and ride, next-bike-rental) and will facilitate access to the public transport services in the region.

Overall the area will get more and better coordinated connections to the main destinations,

m distance of station to closest train station

WL2 bus line with coordinated schedule

WL5 bus line with coordinated schedule

maintained by train

+++ train station is closer to settlement

- cancelled

1) no settlement

2) bikeable distance < 400m (2 min bicycle ride)

3) bikeable distance < 2000m (additional financial support for taxi rides or acquisition of (e-)bicycles for inhabitants)

4) covered by citybus

5) covered by regional bus

6) covered by village bus

	Stops	m	info
1	Krems Bahnhof		WL2
	Krems Stadtpark		- 4) 5)
	Stein/Donau Donaulände/Eyblg.		- 4) 5)
	Stein/Donau Köchelplatz		- 4) 5)
	Stein/Donau Linzer Tor		- 4) 5)
2	Stein-Mautern Bahnhof		WL2
	Unterloiben Rothenhof	800	- 3)
	Unterloiben Parkplatz/Gh. Knoll	650	- 3)
	Oberloiben Haus Riesenhuber	1100	- 3)
3	Dürnstein Parkplatz Ost	150	+++
	Dürnstein West	1100	- 3)
	Dürnstein Heudürr		- 1)
4	Weißkirchen/Wachau Donauwirt	500	+++
	Joching Ortsmitte	600	- 3)
	Wösendorf/Wachau Florianihof	600	- 3)
	St. Michael/Wachau Wehrkirche	2000	- 3)
	Spitz/Donau Rollfähre	300	WL5
5	Spitz - Bahnhof		WL5
	Spitz Hinterhaus		WL5
	Ötzbach Ortsmitte		- 6)
	Pöggstall Gemeindezentrum		WL5
6	Schwallenbach Bundesstraße		+++
7	Willendorf/Wachau Bundesstraße		+++
	Groisbach Ort	400	- 2)
8	Aggsbach Markt Ortsmitte		+++
9	Grimsing Bundesstraße		+++
	Schallengersdorf Bundesstraße		- 5)
10	Emmersdorf/Donau Ortsmitte		+++
	Emmersdorf Seegarten		- 5)
	Melk Kremser Straße		- 5)
	Melk Prinzelstraße		- 5)
	Melk Bahnhof		- 5)

fig. 1.7 - Wachaubahn in Spitz

1.2 Reinstatement of Wachaubahn as a public transport

1.2.4 Suggestions Wachau line „WL2“

The bus line „WL2“ runs connects the cities of Krems and Melk on the right river bank every two hours. The connection will be improved by increasing the frequency to an hourly interval and reducing the stops to reduce travel time.

The bus line „WL2“ has currently up to 37 stops. Our proposal shows a reduction to 26 stops. All stops at schools, kindergardens and other important facilities are maintained unchanged.

All the stops in the major settlements will be improved with new infrastructures (bike and ride, next-bike-rental) and will facilitate access to the public transport services in the region.

Through these changes for very few inhabitants the distances to the next public transport stop will increase. We suggest that communities should provide additional financial support for taxi rides or acquisition of e-bikes for the inhabitants concerned.

Reduction of stops on bus line WL2 „Melk - Mautern - Krems“

	Stops	min	ttm	info
1	Melk Bahnhof	0		T&R
2	Melk Prinzlstraße	1	1	R
3	Melk Kremser Straße	1	2	R
	Melk Pielachmündung		2	- 1)
	Schönbühel/Donau Abzw. Hub		2	- 1)
4	Schönbühel/Donau Ort	6	8	

5	Schönbühel/Donau Schloss	1	9	
	Aggsbach Dorf Donauterrasse		9	- 2)
6	Aggsbach Dorf Volksschule	7	16	
7	Aggsbach Dorf Seilbahn	1	17	1 cc
8	Aggsstein Süd	1	18	
	Aggstein Aggsteinerhof		18	- 2)
	Aggstein Nord		18	- 3)
	St Johann im Mauerthale Kirche		18	- 3)
9	Oberarnsdorf Weinstadl	5	23	
10	Arnsdorf/Spitz Mobility Hub Rollfähre	1	24	F
11	Hofarnsdorf Ort	2	26	
12	Mitterarnsdorf Ort	1	27	
13	Bacharnsdorf Ort	1	28	
	Oberkienstock		28	- 3)
	Unterkienstock		28	- 3)
14	St. Lorenz/Wachau Bundesstraße	3	31	F
15	Rührsdorf Bundesstraße	1	32	
16	Rossatz Kirche	2	34	
17	Rossatzbach Seegraben	1	35	
	Hundsheim/Mautern Ort		35	- 3)
18	Mauternbach Ort	4	39	R
19	Mautern/Donau Hauptschule	1	40	
20	Mautern/Donau Volksschule	1	41	
21	Mautern/Donau Abzw. Baumgarten	3	44	R
22	Stein-Mautern Bahnhof	3	47	2 T&R&k
23	Stein/Donau Köchelplatz	1	48	k
	Krems Steiner Friedhof		48	- 4)
	Krems Universität		48	- 4)
	Krems Seniorenwohnheim		48	- 4)
24	Stein/Donau Donaulände/Eyblg.	1	49	R&k&S
25	Krems Stadtpark	1	50	R&k
26	Krems Bahnhof	2	52	T&R&k

Reduction of stops on bus line WL2 „Krems - Mautern - Melk“

	Stops	min	ttm	info
1	Krems Bahnhof	0		T&R&k
2	Krems Stadtpark	1	1	R&k
	Krems Seniorenwohnheim		1	- 4)
	Krems Universität		1	- 4)
	Krems Steiner Friedhof		1	- 4)
3	Stein/Donau Donaulände/Eyblg.	1	2	R&k&S
4	Stein/Donau Köchelplatz	1	3	k
5	Stein-Mautern Bahnhof	1	4	2 T&R&k
6	Mautern/Donau Kirche	1	5	R
7	Mautern/Donau Volksschule	1	6	
8	Mautern/Donau Hauptschule	1	7	
9	Mauternbach Ort	2	9	R
	Hundsheim/Mautern Ort		9	- 3)
10	Rossatzbach Seegraben	4	13	
11	Rossatz Kirche	2	15	
12	Rührsdorf Bundesstraße	2	17	
13	St. Lorenz/Wachau Bundesstraße	2	19	
	Unterkienstock		19	- 3)
	Oberkienstock		19	- 3)
14	Bacharnsdorf Ort	4	23	
15	Mitterarnsdorf Ort	1	24	
16	Hofarnsdorf Ort	1	25	
17	Arnsdorf/Spitz Mobility Hub Rollfähre	1	26	F
18	Oberarnsdorf Weinstadl	2	28	
	St Johann im Mauerthale Kirche		28	- 3)
	Aggstein Nord		28	- 3)
	Aggstein Aggsteinerhof		28	- 2)
19	Aggstein- Süd	5	33	

20	Aggsbach Dorf Seilbahn	2	35	1 cc
21	Aggsbach Dorf Volksschule	1	36	
	Aggsbach Dorf Donauterrasse		36	- 2)
22	Schönbühel/Donau Schloss	6	42	
23	Schönbühel/Donau Ort	1	43	
	Schönbühel/Donau Abzw. Hub		43	- 1)
	Melk Pielachmündung		43	- 1)
24	Melk Kremser Straße	5	48	R
25	Melk Prinzlstraße	1	49	R
26	Melk Bahnhof	2	51	T&R

min ... distance in minutes

ttm ... total travel time

T Train

R Regional bus

k Citybus Krems

cc cable car

F ferry

S ship

new station

1 moved 300m to cable car station

2 moved 200m to train station

- cancelled

1) no settlement

2) bikeable distance < 400m (2 min bicycle ride)

3) bikeable distance < 2000m (additional financial support for taxi rides or acquisition of (e-)bicycles for inhabitants)

4) covered by citybus

To create better transfer connections to the ferry and the WL1 on the left river bank, we suggest that the WL2 from Melk to Krems arrives hourly at xx:32 at Arnsdorf/Spitz Mobility Hub Rollfähre. In the opposite direction from Krems to Melk the arrival time should be hourly at xx:47.

In Spitz the WL5 bus line acts also as a direct connection between the train station and the ferry station. Also the ferry between Spitz and Arnsdorf should run on a fix schedule during the morning rush hour, to guarantee short transfer

times for the majority of the passengers. (fig 1.6) Compared to the existing WL5 lines, the stop in „Ötzbach Ortsmitte“ will be abandoned and get more efficient service through the village bus.

Adapted schedule of bus line WL5 „Spitz/Donau Bhf - Am Schuss“ (working days Mo - Sa)

WL1 arr. from Krems	06:24		07:24		08:24	09:24	10:24	11:24	12:24	13:24	14:24	15:24	16:24	17:24	18:24	19:24	20:24
WL1 arr. from Emmersdorf	06:34		07:34		08:34	09:34	10:34	11:34	12:34	13:34	14:34	15:34	16:34	17:34	18:34	19:34	20:34
Spitz/Donau Bahnhof	06:35		07:35		08:35	09:35	10:35	11:35	12:35	13:35	14:35	15:35	16:35	17:35	18:35	19:35	20:35
Spitz Rollfähre	06:38		07:38		08:38	09:38	10:38	11:38	12:38	13:38	14:38	15:38	16:38	17:38	18:38	19:38	20:38
ferry arr. (xx:00/xx:20/xx:40)	06:20		07:20		08:20	on demand											
ferry dep (xx:05/xx:25/xx:45)	06:45		07:45		08:45												
Spitz/Donau Hinterhaus	06:39		07:39		08:39	09:39	10:39	11:39	12:39	13:39	14:39	15:39	16:39	17:39	18:39	19:39	20:39
Laaben b. Spitz Gh. Neue Welt	06:40		07:40		08:40	09:40	10:40	11:40	12:40	13:40	14:40	15:40	16:40	17:40	18:40	19:40	20:40
Laaben b. Spitz Ortsmitte	06:41		07:41		08:41	09:41	10:41	11:41	12:41	13:41	14:41	15:41	16:41	17:41	18:41	19:41	20:41
Gut am Steg Zornberg	06:42		07:42		08:42	09:42	10:42	11:42	12:42	13:42	14:42	15:42	16:42	17:42	18:42	19:42	20:42
Gut am Steg Turnhausbrücke	06:43		07:43		08:43	09:43	10:43	11:43	12:43	13:43	14:43	15:43	16:43	17:43	18:43	19:43	20:43
Vießling Bundesstraße	06:44		07:44		08:44	09:44	10:44	11:44	12:44	13:44	14:44	15:44	16:44	17:44	18:44	19:44	20:44
Elsarn am Jauerling Gh. Munk	06:45		07:45		08:45	09:45	10:45	11:45	12:45	13:45	14:45	15:45	16:45	17:45	18:45	19:45	20:45
Elsarn am Jauerling Kapelle	06:46		07:46		08:46	09:46	10:46	11:46	12:46	13:46	14:46	15:46	16:46	17:46	18:46	19:46	20:46
Mühdorf Ledertal	06:47		07:47		08:47	09:47	10:47	11:47	12:47	13:47	14:47	15:47	16:47	17:47	18:47	19:47	20:47
Mühdorf Ortsmitte	06:48		07:48		08:48	09:48	10:48	11:48	12:48	13:48	14:48	15:48	16:48	17:48	18:48	19:48	20:48
Trandorf Ortsmitte	06:53		07:53		08:53	09:53	10:53	11:53	12:53	13:53	14:53	15:53	16:53	17:53	18:53	19:53	20:53
Raxendorf Postamt	07:00		08:00		09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00
Raxendorf Feistritz	07:03		08:03		09:03	10:03	11:03	12:03	13:03	14:03	15:03	16:03	17:03	18:03	19:03	20:03	21:03
Raxendorf Heiligenblut	07:04		08:04		09:04	10:04	11:04	12:04	13:04	14:04	15:04	16:04	17:04	18:04	19:04	20:04	21:04
Am Schuß	07:08		08:08		09:08	10:08	11:08	12:08	13:08	14:08	15:08	16:08	17:08	18:08	19:08	20:08	21:08

1.2.6 Short summary of all changes

Basically, the majority of existing Wachau lines and regional bus lines stay as they are. Especially the bus lines for hikers and bus lines that are operated like pickup services should further support the regular bus lines.

Of the existing 7 „Wachaulines“ the suggested changes are:

- WL1a: bicycle tramper - no changes
- WL1: operated as WL1 - Wachaubahn (train) instead of the bus line. Future reduction of travel time through improvements like technical safety features on railway crossings, etc. suggested
clocked 30 min Spitz - Krems
clocked 60 min Emmersdorf Krems
- WL2: shorter travel times through less stops.
clocked 60 min Melk - Mautern - Krems
- WL3: Krems-Donau-Uni-Shuttle - no changes
- WL4: tourist line (on demand) - no changes
- WL5: improved service with regional bus line R 1444
clocked 60 min Am Schuss - Spitz
- WL6: shuttle service Emmersdorf - Melk operated by regionals bus lines R 1460, R1446 and WL5
- WL7: hikers bus (on demand) - no changes

Faster transports, increased frequencies

For some areas, that are currently covered by the bus lines WL1 and WL2, like the stops in St. Michael and Oberloiben, will not be serviced anymore by a regular bus line. A shuttle service to the next mobility nodes and financial support for the acquisition of e-bikes is suggested.

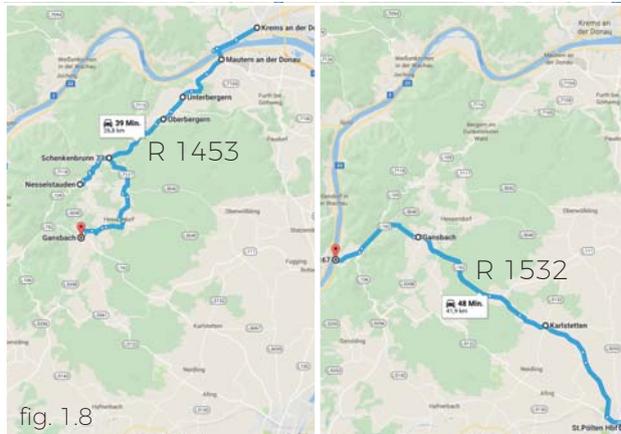
After the presented measures the areas along the Danube are well provided with public transport services.

For the areas up the hills village busses, operated by NGOs and the locals and supported by the communities of the region will provide a better and more efficient service than the current bus lines.

Combined busline on the routes of current buslines R 1453 and R 1532 between Krems - Bergern - Gansbach - Karlstetten and St. Pölten

Currently the bus line R 1453 is basically running as school bus on workdays connecting the villages of Unterbergern, Oberbergern, Schenkenbrunn and Gansbach (municipalities of Bergern i. Dunkelsteinerwald and Dunkelsteinerwald) with Krems. The second line, R 1532 is running from Gansbach via Karlstetten to St. Pölten. (see fig. 1.8)

The area in the hills has a very low population density but very big distances. Combining the lines to one new line would connect the area to the major cities in the region.



To speed up the connection some stops of R 1453 in that area will be removed to avoid a detour of more than 10 kms (see fig. 1.2)

To compensate the reduction of service, there will be a village bus implemented, that picks up the inhabitants of that region (call-a-ride/callaxi) and drives them to the new mobility nodes in Schenkenbrunn and Gansbach. (see fig. 1.2)

An alternative solution would be an alternating combination of the routes of R 1453 with R 1532 and R 1536 (Loosdorf - Gansbach)

R 1446 Melk - Maria Laach (- Oberndorf a. Jauerling)

This bus line currently runs a few times on working days. In the morning until noon the majority of the busses go to Melk, in the afternoon they go up to Maria Laach again. Important for the acceptance of a public transport is a frequent service.

Therefore there should be implemented an hourly schedule between Melk and Maria Laach between 6 am and 8 pm. To Oberndorf there should go busses at least 5 times a day.

R 1460 Melk - Pöggstall (- Ysper / Gutenbrunn)

Between Melk and Pöggstall we also recommend a regular service with busses every 60 minutes on working days including Saturday between 6 am and 8 pm.

Village Bus (see 1.4 Other measures)

The areas in the “back land” up the hills has a very low density of population and will be serviced with „village busses“.

The pick-up areas of the village bus are displayed in fig. 1.2

fig. 1.8 - Current routes of bus lines R 1453 and R 1532

1.3

Settlement densification

This chapter essentially consists of three parts. At first, a brief overview of the planning rules and regulations applied in Lower Austria is given. The availability of building land is then analyzed by means of selected villages. The order of the analyzed villages is from Krems starting along the left bank of the Danube upstream to Aggsbach-Markt, then from the opposite bank of the Danube (Aggsbach village) back to Krems. The exception is the main village of Spitz. This municipality is dealt with last, since in the third section of this chapter a structural example is presented at the railway station in Spitz.

For the analysis of the building land reserves we've selected the main villages of each municipality in the region. To identify the most important villages, the criteria were of course the population, the existing infrastructure (shopping facilities, medical practises, schools, kindergarden, ...) and the potentials for an efficient supply with public transports. The spread sheets with the analysis of the infrastructure in the villages are presented in chapter 1.6.

1.3.1 Instruments for Planning, Building and Habitation in Lower Austria

To give additionally and for further information an overview of the most important instruments regarding planning, building and habitation in Lower Austria, selected instruments are described in the following. (The selection is not comprehensive.)

A) Planning instruments: Lower Austrian (Spatial) Planning Law

The Lower Austrian Planning Law builds the legal basis for all planning actions. The main parts of the law are subdivided in the following topics: Miscellaneous, Regional Planning, Local Planning, Built-up plan, Reallocation of building land, and common principles. The following instruments regard particularly Local Planning as well as the built-up plan. (Lower Austrian Planning Law, 2014)

Instruments of Local Planning

The task of the municipalities is the forward-looking shaping and organisation of the municipal area in according to changing requirements and developments. The different associated demands and visions for the development must be assessed for the community and spatially assigned. (raumordnung-noe.at, a) The following described local development programme is one of the most important instruments of local planning.

Local development programme:

Within the framework of the Local Development programme, the municipalities deal with topics

that are relevant to their municipal area in order to elaborate a set of rules for the municipality on the basis of the legal framework conditions, local / regional circumstances and public, political and private interests.

The Local development programme includes:

- Basic research (to compare a little bit with the analysis phase of our project)
- a Local development plan (consisting of a report of the aims and measures for the municipality, a regulation and plans for the visualization)
- a Zoning Plan and
- the Regulation of objectives and measures.

Accompanying the development of the Local development programme, a Strategic Environmental Assessment is to be carried out. In addition, it is advisable to consider individual special topics such as center zones, building land mobilisation or the world heritage Wachau. (raumordnung-noe.at, 2016-2)

Zoning plan:

In parallel with the elaboration of the local development plan, the zoning plan must be developed or adapted. A consistency and verifiability of the local development plan with the zoning plan must be given. The zoning plan is thus an obligatory part of the regulation on the local development programme.

In the zoning plan, the types of land use are

determined, so how the individual areas/ properties must be used in the future. In addition to the types of land use, the zoning plan must also contain marks, which include regulations of federal and state authorities (existing or binding federal roads, national roads, railways, pipelines, etc.), restrictions on use, which exist based on federal and state laws (nature conservation areas, protected areas, protected areas of water supply systems) as well as areas with serious hazards (such as floods, contaminated sites, etc.). In addition, other specifications are included, such as center zones. These are areas in which a specific kind of land use is permitted exclusively.

The issue of the zoning plan as well as its amendments must be approved. The competent authority here is the office of the Lower Austrian Government, Department for Building and Regional Planning. (raumordnung-noe.at, 2016-3)

Built-up plan:

The built-up plan specifies details of the building development of areas which are designated as building land in the zoning plan and determines the structural design and the traffic development of the building areas, defined in the zoning plan.

The built-up plan conduces as a further explanation or detailing of the zoning plan. The general usage specifications of the properties out of the zoning plan, which allow a considerable range of building projects, in particular regarding

1.3 Settlement densification

the large dimensions, are additionally limited by the built-up plan. The built-up plan is also used for the control of the spatial design. It regulates, among other things, the concrete location of a construction project on a property, the permissible size and height developments as well as criteria for the design. Another objective of the plan is the regulation of the traffic development.

Built-up plans must have the following contents in addition to the representation of type of land use out of the zoning plan:

Alignments, building classes, construction methods, elevation and cross-section of traffic areas. Other contents can be integrated, such as the restriction of the buildable area of a building site, restriction of the building height, shopping centers may only be erected on the designated areas, land areas for public purposes or the horticultural design of the area. (Kanonier, 2014-1)

Protected zones - Speciality in Wachau - Wachau zones:

The concept of the "Wachauzonen" is one of the central elements for the preservation of the Wachau-typical building culture of the world heritage.

§§ 30 and 31 of the Lower Austrian Planning Law permit the establishment of protection zones in architectural or historical preservation, in which the design and technology to be applied can then be prescribed for certain construction projects.

This concept was first developed in some cities in the southern region of Vienna (for example, Baden or Bad Vöslau) and transferred to Lower Austria for the first time in a pilot project in the Wachau.

The procedure is, in each case, that first of all a corresponding structural or historically valuable building stock must be defined in the respective village. This is done by means of a visit with the participation of the "Wachauzonenpartner" (regional building authority Krems, Federal building department of Lower Austria, Federal Office of Historic Monuments of Austria). Based on these inspections, a built-up plan is then developed, which is based on a general categorization in four categories and in some cases makes specifications for a future development up to the individual parcel. (weltkulturerbe-wachau.org)

The categories can be:

- Category I - heritage-protected
- Category II - worthy of preservation
- Category III - characteristic for the overall appearance of the locality
- Category IV - other objects and areas of the Wachau zone

(municipality Rossatz-Arnsdorf, 2014)

Study of the Official Government of Lower Austria:

The study is intended to help preserve the specificity of the Wachau landscape, where

culture and nature are harmoniously linked, and to use development opportunities. In addition to the preparation of cultural landscape specifics, the result of the study is a checklist, which systematizes and simplifies the assessment of planned settlements. The traceability and transparency of decision-making processes for professionals and the population is increased, different assessments of settlement extensions are comparable. (stadland.at)

The study analysed the spacious relief - the topography, the spacious structure of the cultural landscape like the contiguous landscaped areas, the compact, clearly defined settlement units or dominants and marks. Also different landscape situations, like the vineyards on the hills or in the plain, or apricot plantations and the surrounding forrest and meadows were analyzed. (Gov. of Lower Austria, 2006-1)

More information about this study follows in chapter 1.3.3.

Tool against vacancy - example:

NEST in Vienna – an agency for vacancy management throughout intermediate use of buildings.

The term „intermediate use“ refers to the temporary use of premises. Owners are thereby replaced the vacancy costs and the premises do not expire, but are maintained. On the other hand, space explorers are thus given the opportunity to try out scenarios that aim at self-employment or cover cultural, artistic or social goals with little financial effort. The legal basis for an intermediate

use is called the so-called “Bittleihe” (to borrow, loan the premises), a contract that can be terminated by both parties at any time. This contract includes a free transfer of use without a minimum contract term. Only the operating costs will be charged to the users. Vacancy causes negative image associations of a city district and may depreciate the view of the city. Any structural damage will not be recognized in time, and any vacant costs will remain attached to real estate owners. Intermediate use is a suitable way to transform these facts into a win-win situation for all parties involved, while at the same time enhancing the city district. (acc. NEST, 2016)
Further information: <http://www.nest.agency>

B) Building instruments:

The most important instruments for building in the Wachau are shortly described in the following:

Lower Austrian Building Regulations

The Building Regulations essentially covers legal regulations regarding the construction of buildings. The traditional core of public building law deals with regulations designed to ensure the safety and perfect technical, sanitary and hygienic nature of construction projects.

In addition, the building regulations, which take account of the requirements of the spatial planning, are aimed at the protection of the cityscape as well as the environmental and pollution control regulations.

Contrary to planning law, concrete building projects are the object of the building inspection. As a rule, the building project is a project audit procedure in which, among other things, compliance with the planning principles is checked. (Kanonier, 2014-2)

The topics of the Lower Austrian Building Regulations are divided into building law (regulations about the building plots, the approval procedure and the building projects) and structural engineering and construction (requirements for planning and building, arrangement and exterior design of buildings or regulations regarding the heating system). (Lower Austrian Building Regulations, 2014)

Austrian Monument Protection Law:

The Monument Protection Law forms the basis for the activity of the Federal Office of Historic Monuments of Austria as an authority. The law, dating back to 1923, expelled those objects (movable and immovable) from the mass of the objects handed down, which are to be preserved as an indispensable part of the common cultural heritage for the future. For these objects a public interest in the preservation is determined. The law also provides a means of controlling the further development of these monuments by having to approve changes by the authority. In this way, on the one hand, necessary and meaningful adaptations are to be avoided, but at the same time intrusions which seriously impair the essence of the monument, namely substance, traditional appearance or artistic effect. (Fed. Office of History Monuments, 2014)

C) Habitation instruments:

The Official Government of Lower Austria supports affordable living with different sponsorship possibilities. Residential building subsidies can be received for rented apartments or houses or for owned ones. The Government provides also help in buying or selling a resident.

Important are also the sponsorships for renovation and redevelopment of buildings. Sponsored measures are for example:

- Heat protection measures and measures to reduce energy consumption
- Sound-absorbing measures
- Measures appropriate to the disabled
- Conservation work to maintain the property
- The union or division of housing units
- Heating systems with and without hot water treatment with renewable or with environmental energy
- Preventive measures for flood protection

Another sponsorship is the housing benefit, which can be received by tenants of sponsored apartments. (Gov. of Lower Austria, 2017)

1.3.2 Building land reserves

Due to the problem of the little building land in the Wachau municipalities, we explored the building land reserves of them. Basis for the research were orthophotos, zoning plans of the municipalities, Google-maps and the Lower-Austrian atlas of the Office of the Provincial Government of Lower Austria within the digital cadaster.

By showing up the building land reserves in the selected municipalities (see fig. 1.2) the following criteria have been considered:

- the property must be designated as building land (there are different types of building land, described on the following pages)
- the property lies inside the existing settlement structure
- the property is actually not built-up (there are actually no physical structures erected on the property)
- free properties without a designation as building land are not considered - they have to be held free (they are anyway designated as grassland)

It has to be mentioned, that the free properties are just possible extension areas. For sure not all of them can be developed prospectively due to the ownership structures and furthermore the requirement has to be estimated. An important fact is that most of the free properties are actually vineyards or orchards - so every built-up property means a loss of agricultural area, that is so characteristic for the region! The interests have

to be weight carefully.

Categories of building land:

The different categories of building land in the zoning plans of the municipalities are:

- 1) BK: „Bauland Kerngebiet“ - building land - core zone
- 2) BA: „Bauland Agrargebiet“ - building land - agrarian zone
- 3) BW: „Bauland Wohngebiet“ - building land - housing zone
- 4) BW-A or BA-A: „Bauland Aufschließungszone“ building land – opening-up zone

Before we display the building land reserves of the municipalities, an explanation of the different types of land use follows.

Basically the zoning plan regulates the possible use of a property by the defined type of land use for the individual property. In the zoning plan three main types of land use are declared:

- Building land
- Grass land
- Traffic areas

The building land is subdivided into different types (residential area, core area, agricultural area, industrial area, etc.). § 16 of the Lower Austrian Planning Law 2014 regulates which types of buildings may be erected in the individual building land types. By adding to the zoning

plan, the range of permissible buildings can be defined more precisely in certain building land types and thus restricted or extended. In so-called opening-up zones no building may be erected, before the municipal council releases the opening-up zone with a building regulation. There are different criteria, what is permitted on which type of building land:

1) BK: building land – core zone:

In any case permitted are residential buildings, public buildings, buildings for entertainment places and buildings for public safety. Limited permitted are buildings to supply the population with goods and services of daily needs, buildings for public safety and buildings for the fulfillment of religious, social and cultural needs. Limited permitted with consideration to the surrounding areas are high-rise buildings (in designated high-rise building-zones) and shopping centers (in designated shopping center zones). And in any case not permitted are large companies, companies with harmful effects and intensive livestock farming.

2) BA: building land – agrarian zone:

In any case permitted are agricultural and forestry enterprises, animal farming that is more than normal pet keeping and residential buildings with maximum four living units per property. Limited permitted are buildings to supply the population with goods and services of daily needs, buildings for public safety and buildings for the fulfillment of religious, social and cultural needs. Limited

permitted with consideration to the surrounding areas are commercial and production establishments with locally acceptable noise- and odor pollution as well as "village structure - compatible" dimensions and commercial facilities. And in any case not permitted are large-scaled apartment buildings (with more than four living units), large companies for business and production, companies with harmful effects and high-rise buildings.

3) BW: building land - housing zone:

In any case permitted are residential buildings. Limited permitted are buildings to supply the population with goods and services of daily needs, buildings for public safety and buildings for the fulfillment of religious, social and cultural needs. Limited permitted with consideration to the surrounding area are commercial and production establishments with locally acceptable noise- and odor pollution as well as "village structure - compatible" dimensions and commercial facilities. And in any case not permitted are large companies, companies with harmful effects, high-rise buildings and animal farming that is more than normal pet keeping.

4) BW-A or BA-A: building land - opening-up zone:

In order to ensure an orderly settlement development, building land can also be defined as an „opening-up zone“ in the zoning plan. Opening-up zones mean that land is currently not declared as a building site, construction

permits are not granted and the land borders cannot be altered. This is only possible if, after certain conditions have been met, the town council releases the opening-up zone by means of a decision. The municipal council stipulates the conditions („release conditions“) by ordinance at the same time as the building land type of the building land opening-up zone. The release conditions must be appropriate and can be read in the regulation text. The release of parts of an opening-up zone is possible if the clearance requirements for this area have been met and the municipality does not incur any uneconomic expenses for the basic equipment and the proper building option of the remaining remaining area remains secured. If no internal traffic opening is defined or is to be modified for an opening-up zone, the release may only be carried out when the traffic is cleared.

Building land reserves can be built-up only due to this regulations, so they have to be considered before any development plan. The following maps show the building land reserves of all selected municipalities in the Wachau region and the area per building land type.

	building land - core zone
	building land - housing zone
	building land - agrarian zone
	building land - opening up zone
	building land - opening up zone

1.3 Settlement densification



fig. 1.9

Unterloiben (municipality of Dürnstein)

According to the internal development approach, preference should be given to those areas that are in the closed settlement structure and not on the settlement edge or outside. However, all potential building land reserves were shown.

A calculation of the areas per building land type is included, the values should just give the approximately area of building land – the precision is not perfect, due to the fact that the areas have been drawn in by hand and measured out of the drawn in areas.

Unterloiben:

Unterloiben is part of the municipality of Dürnstein, has 319 inhabitants (Statistik Austria, 2016) and is therefore the second largest village in the municipality. The “Wachaubahn” has a stop in the north of the settlement area. The following table shows up the building land reserves for Unterloiben:

Building land type	Area (m ²)
BA - building land - agrarian zone	6.883
BW - building land - housing zone	2.194
Total	9.077

Unterloiben has a building land reserve of circa 0,9 hectare, from which one third is housing zone and two thirds are agrarian zone.

-  building land - housing zone
-  building land - agrarian zone

fig. 1.9 - Building land reserves - Unterloiben

1.3 Settlement densification



Oberloiben, Dürnstein (municipality of Dürnstein)

Dürnstein:

Dürnstein is a village of the identically named municipality of Dürnstein and with 326 inhabitants (Statistik Austria, 2016) the largest one. In the historic part of Dürnstein is no building land left. The historic core is very dense structured and protected as an ensemble by the Austrian Monument Protection Law through the Federal Office of Historic Monuments of Austria. Building land reserves are located around the train station of the "Wachaubahn". There is also a supermarket and some new, modern housing complexes. The following table shows up the building land reserves for Dürnstein:

Building land type	Area (m ²)
BK - building land - core zone	701
BA - building land - agrarian zone	1.671
BW - building land - housing zone	2.685
Total	5.057

Dürnstein has a building land reserve of circa a half hectare, the main amount is housing zone. In the surrounding area some of the already mentioned new housing complexes have been integrated in the landscape very well with

- building land - core zone
- building land - housing zone
- building land - agrarian zone

materials like wood, stone, for example dry stone walls and suitable colors. For new buildings this should be considered. The figures shows a free property in Dürnstein next to the train station. As mentioned in the chapter before, not to forget, most of the free properties are vineyards or orchards, and it has to be weight up carefully if and what is going to be developed on these areas.



fig. 1.11

fig. 1.10 - Building land reserves - Oberloiben, Dürnstein

fig. 1.11 - Vineyard on building land, Dürnstein

1.3 Settlement densification



Weißkirchen (municipality of Weißkirchen)

Weißkirchen:

Weißkirchen is beside Joching, Wösendorf and St. Michael village of the identically named municipality of Weißkirchen and with 972 inhabitants (Statistik Austria, 2016) the largest of these four villages. Similar to Dürnstein, in Weißkirchen most of the building land reserves are out of the dense historic core, which lies along the road that leads onto the hills (see fig. 1.12).

Building land type	Area (m ²)
BA - building land - agrarian zone	8.649
BW - building land - housing zone	38.034
BW-A - building land - opening-up zone	7.013
Total	53.696

Weißkirchen has about 5,4 hectares potential building land and out of that a huge amount of building land – housing zone and opening-up zone, especially on the northern and western edge of the settlement. These areas are currently all vineyards and partially on steep terrain (see fig. 1.14). We think that the development of these properties should not be preferred. First, the internal building land reserves around the historic core should be used (see fig. 1.13).

- building land - housing zone
- building land - agrarian zone
- BW-A building land - opening up zone



fig. 1.13



fig. 1.14

fig. 1.12 - Building land reserves - Weißkirchen

fig. 1.13 - Building land around the historic core

fig. 1.14 - Building land on steep terrain

1.3 Settlement densification



Aggsbach Markt (municipality of Aggsbach)

Aggsbach Markt:

Aggsbach Markt is a village of the municipality of Aggsbach and has 401 inhabitants (Statistik Austria, 2016). The "Wachaubahn" has a stop here. Also for this village the internal development is from high importance, because many of the building land reserves lie on the edges of the settlement and there are large properties that are zoned as opening-up zone.

chapter 1.4.3). This area is calculated within the building land reserves.

Building land type	Area (m ²)
BA - building land - agrarian zone	16.577
BW - building land - housing zone	21.442
BW-A - building land - opening-up zone	12.900
Total	50.919

Aggsbach Markt has building land reserves of about five hectare, of which the biggest part housing zone is. The purple colored areas can be properties for the construction of a cable car, that connects Aggsbach Markt with Aggsbach Dorf across the Danube (more about the idea in

-  building land - core zone
-  building land - housing zone
-  building land - agrarian zone
-  building land - opening up zone
-  intended property for cable car station

fig. 1.15 - Building land reserves - Aggsbach Markt

1.3 Settlement densification



Aggsbach Dorf (municipality of Schönbühel-Aggsbach)

Aggsbach Dorf:

Aggsbach Dorf lies opposite of Aggsbach Markt and is a village of the municipality Schönbühel-Aggsbach. With 399 inhabitants (Statistik Austria, 2016) it is the largest village of the municipality. The following table shows up the building land reserves for Aggsbach Dorf:

Building land type	Area (m ²)
BK - building land - core zone	9.405
BW - building land - housing zone	40.961
BA - building land - agrarian zone	13.525
Total	63.891

With more than six hectares building land reserve, Aggsbach Dorf has in total the second largest area with development potential, especially of housing zone. The purple colored areas can be properties for the construction of a cable car, that connects AggsbachMarkt with Aggsbach Dorf across the Danube (more about the idea in chapter 1.4.3). The area down in Aggsbach Dorf is calculated within the building land reserves.

-  building land - core zone
-  building land - housing zone
-  building land - agrarian zone
-  intended property for cable car station

fig. 1.16 - Building land reserves - Aggsbach Dorf

1.3 Settlement densification



Oberarnsdorf (municipality of Rossatz-Arnsdorf)

Oberarnsdorf:

Oberarnsdorf is a village in the municipality of Rossatz-Arnsdorf and has 187 inhabitants (Statistik Austria, 2016). It has only one category of building land reserves – building land – agrarian zone. Most of the areas are currently used as apricot gardens. On these properties, not more than 4 living units can be erected, due to the category agrarian zone. The following table shows up the building land reserves for Oberarnsdorf

Building land type	Area (m ²)
BA - building land - agrarian zone	17.289
Total	17.289

This small village has more than one hectare building land reserves, some large areas are located on the edges of the settlement structure and are therefore not to prefer in the development. With the mobility hub Spitz – Arnsdorf (see chapter 1.2.2), Oberarnsdorf has a good potential for new building projects, commuters can be very quick in Spitz by bike and ferry to go to Krems or Melk.

 building land - agrarian zone

fig. 1.17 - Building land reserves - Oberarnsdorf

1.3 Settlement densification



Mitterarnsdorf, Hofarnsdorf (municipality of Rossatz-Arnsdorf)

Mitter- and Hofarnsdorf:

The villages Mitter- and Hofarnsdorf, with 163 respectively 83 inhabitants (Statistik Austria, 2016) also belong to the municipality of Rossatz-Arnsdorf.

Building land type	Area (m ²)
BW - building land - housing zone	5.613
BA - building land - agrarian zone	14.004
BW-A - building land - opening-up zone	12.063
Total	31.680

The villages have together more than three hectares building land reserves, to be mentioned is the currently developed "Wohnpark Hofarnsdorf" – living park Hofarnsdorf, which should be built up on a area of 18.000 m² on building land – housing zone and opening-up zone on the western edge of the village. We think that this project may be good for affordable housing for young people, but it should have been developed on properties, that have already existing infrastructure and that lie more internal the existing structures. For this small village, we think that this planned project is in its dimension to large. Fig. 1.19 shows a view of the project, fig. 1.20 the current building site.



fig. 1.19



fig. 1.20

- building land - housing zone
- building land - agrarian zone
- BW-A building land - opening up zone

fig. 1.18 - Building land reserves -
Mitterarnsdorf, Hofarnsdorf

fig. 1.19 - Project „Wohnpark Hofarnsdorf“

fig. 1.20 - Building site „Wohnpark Hofarnsdorf“

1.3 Settlement densification



Rossatz (municipality of Rossatz-Arnsdorf)

Rossatz:

The village Rossatz is the main village of the municipality Rossatz-Arnsdorf and has 365 inhabitants (Statistik Austria, 2016). The table shows the building land reserves for this village. The following table shows up the building land reserves for Rossatz:

Building land type	Area (m ²)
BW - building land - housing zone	20.865
BA - building land - agrarian zone	34.349
BA-A - building land - opening-up zone	1.226
Total	56.440

The main part of the more than five hectare large building land reserves is agrarian zone. Currently most of these areas are vineyards. There are many properties, that lie in the existing settlement structure. These properties should be favored over the building land - housing zone on the edge of the settlement.

-  building land - housing zone
-  building land - agrarian zone
-  BA-A building land - opening up zone

fig. 1.21 - Building land reserves - Rossatz

1.3 Settlement densification



Spitz an der Donau (municipality of Spitz an der Donau)

Spitz an der Donau:

Spitz is one of the biggest municipalities in the Wachau and an important transport node. The identically named village Spitz has beside 1.260 inhabitants (Statistik Austria, 2016) many social and cultural facilities that are important for the whole region. Therefore, Spitz can be seen like Krems or Melk as a centre in the middle of the Wachau.

- we see a high potential in Spitz to grow and be a residence for young people and families, who work, live and spend their leisure time in the village - in accordance to our vision "mission possible". The following map shows a zoomed-in excerpt of the area around the "Wachaubahn" train station, where we wanted to show an example for settlement densification..

Building land type	Area (m ²)
BK - building land - core zone	28.160
BW - building land - housing zone	37.245
BA - building land - agrarian zone	17.684
BW-A - building land - opening-up zone	17.590
Total	100.679

Spitz has not only the most inhabitants of our selected villages, it has also with more than ten hectares the largest building land reserves of all villages. Due to its important facilities, the accessibility with public transport and the potential of building land - many areas are zoned as core land where diverse uses are possible

	building land - core zone
	building land - housing zone
	building land - agrarian zone
	building land - opening up zone

fig. 1.22 - Building land reserves - Spitz an der Donau

1.3 Settlement densification



Spitz an der Donau / train station

On the area around the train station of Spitz, depicted in fig. 1.23, an example of a building development is presented in the chapter 1.3.4.

-  building land - core zone
-  building land - housing zone

fig. 1.23 - Building land reserves - Spitz / train station

1.3.3 How to build in the Wachau?

The Wachau and its particular cultural landscape needs a sensitive handling of settlements. To create the possibility for affordable living for all generations (especially for young people and young families) in the Wachau it is necessary to build up new residential buildings in a density which matches with the typical structures in the Wachau.

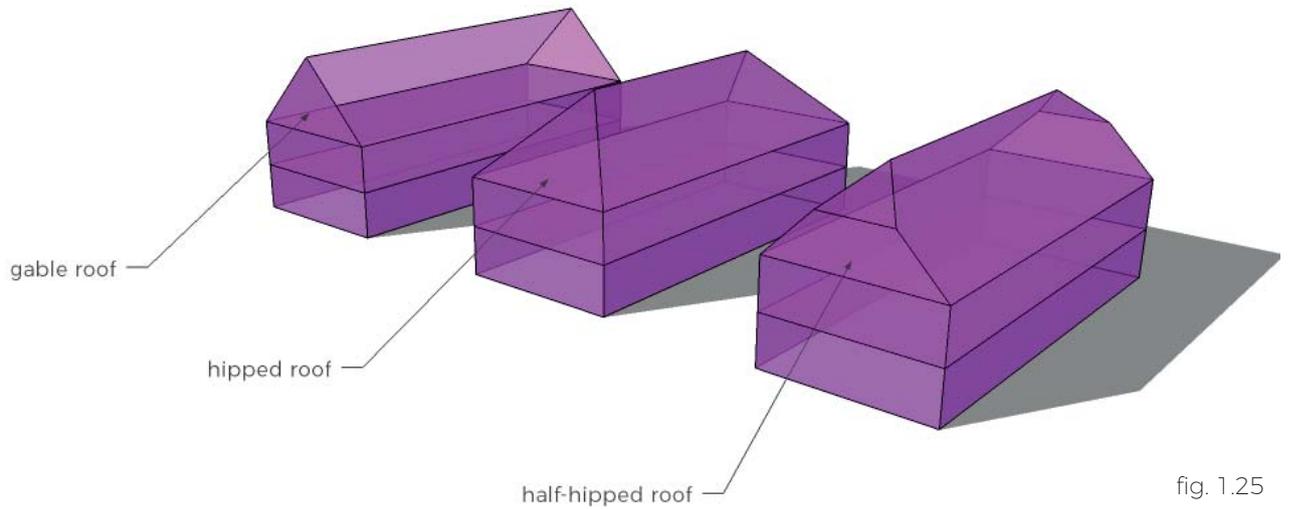
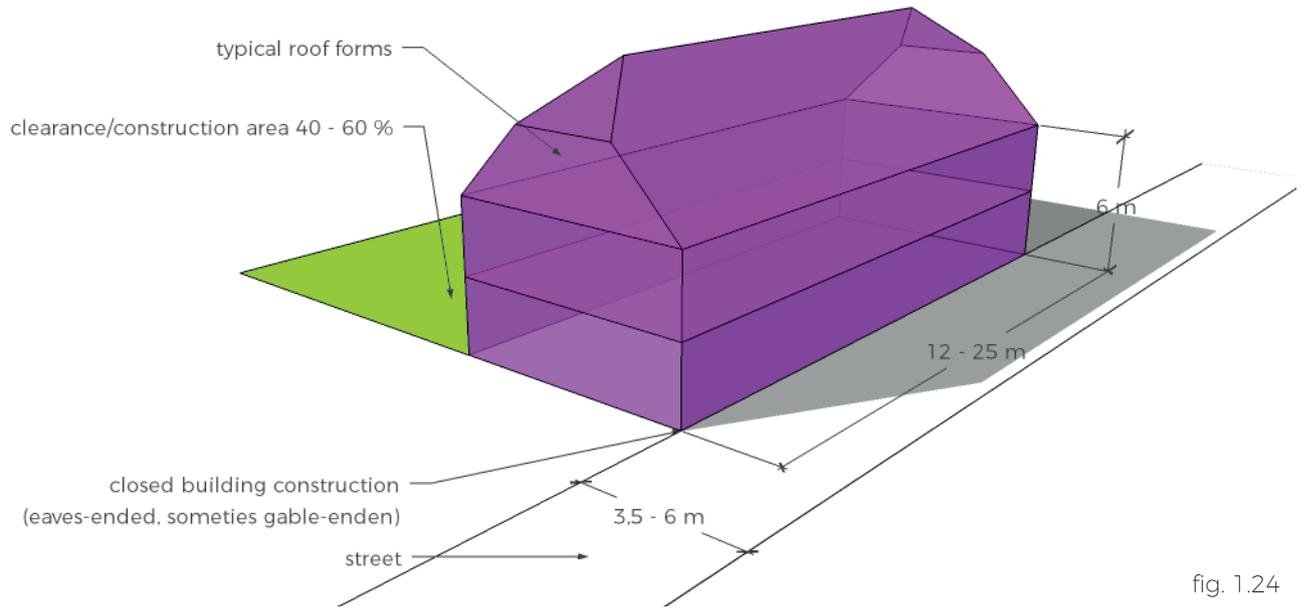
The federal state of Lower Austria (NÖ) created a study of the „general examination of the landscape compatibility of settlement extensions in the Wachau“. (Gov. of Lower Austria, 2006-2) They described essential cornerstones of the traditional Wachau development which we want to offer shortly (acc. to Gov. of Lower Austria, 2006-2: 23):

- The road width varies between 3.50 m and 6 m
- Building structure occupies between 40% and 60% of the plot
- The buildings orientation is mostly with the eaves-end onto street, but sometimes with their gable-end
- The eaves height is just under 6 m
- The gable roof has a slope between 38° and 51° and has rarely dormers
- The street facades of the individual buildings has a length between 12 and 25 m and are characterized by asymmetry, gateways, flat bays

For the fulfillment of the requirements for the settlement development this means (acc. to Gov. of Lower Austria, 2006-2: 23):

- Wide road cross sections and long linear road sections are to avoid
- The typical orientation of the buildings to the streets without or only small front yards should be kept
- Compact settlement structures and closed building constructions are to favor
- Usually the buildings normally don't have more than two main floors

For creating new possibilities for residents these facts should be respected and the building law of Lower Austria has to be followed.



1.3.4 Settlement densification Spitz train station area

To show how a condominium that corresponds to these conditions could be designed we have chosen two areas next to the train station in Spitz an der Donau. It is intended to enable the future residents to live in the Wachau, maybe to work nearby or to have fast connections to the work centers Krems, Melk, Vienna or Linz. Together with the reorganised public transport system and sharing concepts it should be possible to live in the Wachau without owning a car.

The plots are about 4.200 m² and 1.950 m² big and are oriented to the streets Kremserstraße and Teichbach. Next to the plots there is a small baroque castle with a huge garden. Because of the historic building and to uphold the visual relationships to the church of Spitz we

decided not to use this building land for new residential buildings. If in future Spitz needs more development areas or living space this area could be developed in a way, that is adapted to the location.

The adjacent buildings of the two plots have an irregular terrain height. To find out the heights we used pictures with different views of Spitz (acc. to Aerial Photos, 2017). In the area of Kremserstraße the buildings mostly have one floor (sometimes dormer windows). The hill sided buildings have two floors (mostly with dormer windows). Near the street Teichbach buildings have two floors with an attic floor. In direction of the Bahnstraße there is a terrain difference of approximately 3 m. That's why the buildings in this area don't



appear like 6 m high buildings.

To find out how the roofs look like we used aerial photos. Most of the buildings have gable roofs, hipped roofs, half-hipped roofs or mixed forms (see fig. 1.25)

On the basis of these findings, guidelines have been created how to integrate new buildings in the existing structures (see fig. 1.28). New buildings are to be located with their eaves along the streets Kremserstraße and Teichbach, which is marked with the mandatory building line. To preserve the construction line of the buildings to the streets we also provided additional construction bans.

Because of the low heights of the existing buildings at Kremserstraße and to guarantee the best possible exposure to new and existing buildings, newly built apartments only could have one floor with an attic floor. Dormer windows and the use of the typical roof forms help to make the attic more useable. Because of the topography and the differences in terrain to the Bahnstraße and the adjacent buildings, all other areas could be planned with two main floors and an additional attic floor.

As it is common in the Wachau, the site occupancy should only be 40-50% of the plots to guaranty free space and green areas for the inhabitants. It is also important to keep the clearance areas, access areas and the main accesses clear to

create enough space for pedestrian connections and access areas for emergency vehicles.

The following pictures (fig. 1.29 to 1.32) show how the construction volume appears from different views. For simplicity we only show the situation with the main floors (without attic floors)

To illustrate how new buildings could be implemented on the basis of these guidelines, we planned an example for a settlement densification in the next step:

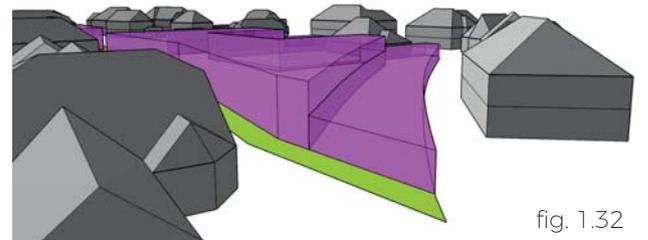
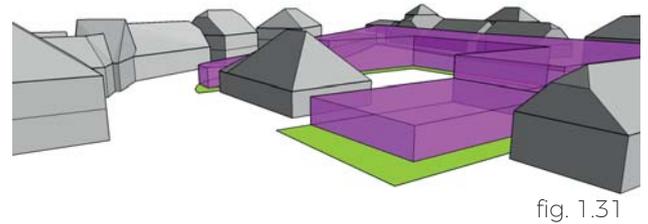
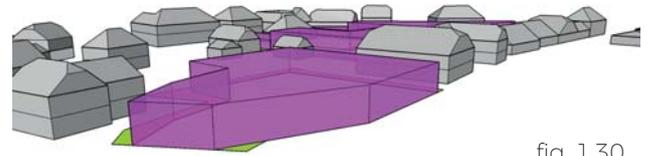
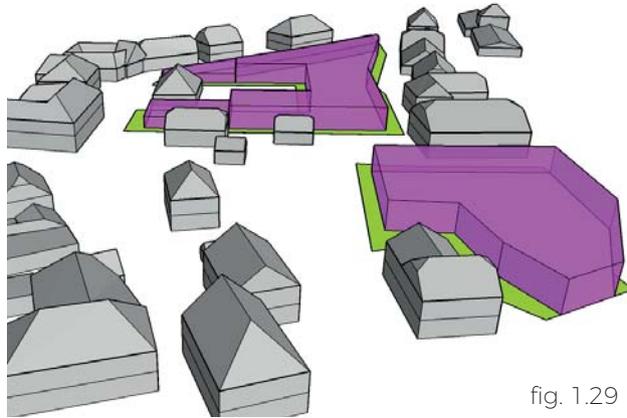
fig. 1.26 - Building plot - View from Teichbach

fig. 1.27 - Building plot - View from Kremserstraße

1.3 Settlement densification



Settlement densification Spitz train station area



- existing buildings
- construction volume (1 floor + attic floor)
- construction volume (2 floors + attic floor)
- clearance and access areas
- eaves-end onto street
- mandatory building line
- construction ban
- main access

fig. 1.28 - Development plan

fig. 1.29 - Development plan - aerial view from west

fig. 1.30 - Development plan - view from the south

fig. 1.31 - Development plan - view from north west

fig. 1.32 - Development plan - view from east

1.3 Settlement densification



Building example Spitz - train station area

Building structure

In fig. 1.33 you can see an example how the buildings could be integrated in the existing settlement structure. The concept depends on the guidelines which we created for Spitz before. The buildings are 10 m deep and have a maximal front side of 25 m. With a sufficient distance to the adjacent residential buildings, the adequate

-  existing building
-  example of densification
-  streets
-  bus stop with elevated sidewalk
-  access paths
-  semi-public green areas
-  public green areas
-  toddlers playground
-  trees / apricot trees
-  wine
-  raised garden bed
-  entrance apartments / duplex
apartments / garage

exposure of all residential buildings is ensured. The height of the buildings is approximately 6 m.

Green areas

On both plots there should be one playground for little children, raised garden beds for the inhabitants, apricot trees and wine. The aim is to obtain existing apricot trees. Also typical dry stone walls should be part of the public gardens to include the aspects of the regional cultural landscape. If possible both plots should be connected by a public path which could be secured by a servitude.

Mobility concept

It is intended, that the residents of the apartments mainly use public transports. That should be possible in most cases by the proximity to the mobility node at Spitz train station and by the reorganisation of the public transport network. For rare cases the integrated mobility concept of our residential concept includes an in-house fleet of two e-cars, three cargo bikes and five e-bikes in two garages at Kremserstraße (with additional bike racks for private bikes) that can be used by the residents after registration. In addition to the electric vehicles which can be used against low charges, also an annual voucher for the usage of the public transport system is offered to the residents.

fig. 1.33 - Building example Spitz train station area

1.3 Settlement densification

Basically this means that no car parking spaces were planned for the apartments. Guests have the possibility to park at the train station, or in one of the few short-term parking spaces. As a proven example for this mobility model a social housing project in the south of Vienna is used. (see ÖSW, 2017)

Densities and apartments

On the displayed plots an area of 6.150 m² can be developed. With a total base area of 2.380 m² of all new buildings the site occupancy index is 0,39 which corresponds to a construction area of approximately 39% on the plots. So the value of the construction on the grounds is oriented to the typical 40 - 60 % in the Wachau. Calculating



fig. 1.34

- example of densification
- existing buildings
- tracks „Wachaubahn“

the site occupancy index (without access areas) on the number of floors we get a floor space index of approximately 0.66 with about 4.050 m² of usable areas.

With this total area of living space it is possible to offer various types of apartments with various sizes. In our example we've planned 2 duplex apartments with about 120 m², 10 duplex apartments with about 80 - 90 m², 28 apartments with 70 - 80 m² and 9 apartments with 45 - 60 m² could be offered (2 apartments per storey in every house). In sum 49 subsidized apartments for 80 - 90 inhabitants could be created for affordable housing. The size and the number of the apartments should be customized on the needs in the municipality. In fig. 1.34 you can see how the exemplary new building blend in the existing settlement structure.

„Mission possible! -Living in the Wachau“

In our example only the residential use in the newly planned buildings was taken into account. However, in order to meet the topic of „Mission possible! -Living in the Wachau“, the buildings have to be designed in such a way that other uses, like offices, small commercial uses or a local supplier could be accommodated in these buildings.

In the near train station building for example, a café was thought up. Other uses could also be considered. It is also important to re-use the remaining station buildings in case of vacancy (example see chapter 1.4.6.). Due to the improved train connection and the new

buildings, affordable living is provided, also the possibilities for new jobs in the villages. At least the connections to the working centers in the region are improved and the degree of dependency to private automobiles is reduced with these measures. The composition of the construction concept and the new mobility node has to be seen as a model for the other „centers“ in the municipalities of the Wachau region.

Changes at the train station

On the enlarged section of the building concept, the train station area is displayed too (fig. 1.35). In order to be able to set up the high-level traffic

nodes and to make this area more usable, we also redesigned the forecourt of the station. A second bus stop for the WL5 bus line was erected opposite the train station building, and the bus station levels was raised to receive a more comfortable entry into the buses. The stop cappings are now accessible by wheelchair accessible ramps without barriers.

fig. 1.34 - Building example - aerial view
fig. 1.35 - Changes at Spitz train station



-  existing building
-  example of densification
-  streets
-  bus stop with elevated sidewalk
-  public green areas
-  nextbike rack / bike rack / bus shelter
-  trees / apricot trees

In order to make the train access area barrier-free, it is also necessary to lift the platform in the track area and equip it with ramps as by the bus stops. The bike rental station has been moved closer to the bus platforms and the train platforms and additional bicycles were provided. Now there is space for about 12 rental bikes and about 28 bicycles. In the former station building a cafe was conceived, which can be used as a meeting place for the inhabitants of the new adjoining apartments, generally for the inhabitants of Spitz and as a tourist stopover.

In addition to the expansion of the existing public green spaces, new road markings are being planned. In the new mobility nodes also at least one barrier-free parking is provided in the immediate vicinity of the traffic node.

fig. 1.36 - Winery Högl in Spitz

1.3.5 Further building examples applicable for the Wachau

In this section a small selection of (already planned or implemented) projects are displayed and discussed if what of their elements can be included in a settlement compilation adapted to the region. It also shows which different materials were processed in the projects. Not all of the examples are necessarily best practise. They really should show, how locals, housing developers, architects, etc. used and interpreted the typical Wachau style. Because it was hard to find new projects with the typical style in the Wachau region we also show some from nearby areas

Competition entry of the housing project in the center of Unterbergern:

The village center of Unterbergern is to be revived by the settlement of a local supplier. In addition to the local supply, which also runs a small cafe, the post office and the trafficking shop, an office, a library and 20 apartments are to be found in this building. Due to its central location, a new village square can also be built. In the design the existing building line was considered. The parking area is located in the back area of the plot and is accessible from the adjacent road. (acc. to JAP! Architektur, 2017) The erection has already been fixed. However, it was not possible to determine whether this project is the winning project. It must also be mentioned that an old court was demolished for execute the project.

Condominium in the centre of Gföhl:

This project is not in the Wachau but only a few kilometers north of Krems in the centre of the

small city Gföhl. It was chosen mainly because of the roof structure and the offer of different housing forms. In addition, the building is erected by a local non-profit housing development which is called "Gedesag". The building, which is mainly newly built, contains 26 residential units. Apart from standard apartments also „assisted living“ and „young living“ are offered. (acc. to Gedesag, 2017:2) In the roof construction the gable roof and the flat roof were combined, whereby the lateral roof profile shows the typical picture of a half-hipped roof. Thus the eave reach a height of approximately 6 m. Also in this project, the majority of the structure has been removed. Only one existing building, which is already used as a residential house, remains.

Modern interpretation of the Wachau style of single buildings:

In the following projects, not the idea of placing individual buildings on the green meadow, was taken as an incentive. They are more showing how new buildings could be designed with the local building style and local materials. The ideas could be applied on the one hand to (new) single-family houses which are built or remodeled in the centers of the villages and on the other to large (residential) projects.

Fig. 1.36 shows the winery Högl in Vießling (Spitz an der Donau). The building has the typical form of a eaves end sided house with a gable roof and a twisted lower building part in the same style next to the higher part. Most of the facade is

designed with wooden slats. 2016 the project was honored with the "Holzbaupreis" of Lower Austria in the category "Nutzgebäude" (engl. commercial buildings). (acc. to Holzbaupreis NÖ_1, 2017)

In fig. 1.37 a project which also was honored by the "Holzbaupreis" in 2014 in the category "Um- und Zubau, Sanierung" (engl. reconstruction and extension, refurbishment) can be seen. The existing building in Willendorf was renovated and supplemented with a loft-like attic floor. The new floor was adapted in a way that fit to the village-specific building structure. Except for the facade facing the "Venus garden" and the Danube valley all the others were designed with wooden slats. (acc. to Holzbaupreis NÖ_2, 2017)

As last example (fig. 1.38) we chose a one family house in Spitz. It is gable end sided and holds the building line of the dry stone wall next to



1.3 Settlement densification

the house. The ground floor was an existing basement/cellar on which the new floors were built. (acc. to nextroom, 2002) Also this project was designed with wooden slats and in addition with a flat bay on the long side, which is a typical design element in the Wachau region.

fig. 1.37 - Single-family house, Willendorf

fig. 1.38 - Single-family house, Spitz an der Donau

fig. 1.39 - Building example „Mobility node Arnsdorf“



1.3.6 Building example „Mobility node Arnsdorf“

The changes at the train station and the ferry station in Spitz have already been described earlier.

See fig. 1.6 for the traffic aspects and chapter 1.3.4 for the building examples.

Fig. 1.39 shows the new mobility node in Arnsdorf. You can see the reversion loop of the bus line WL2. It is wheelchair accessible by ramps and the bus platform was raised for a more comfortable access. Also a bus shelter is planned. The planned bike shelters can hold 12 rental bikes and 24 racks for bikes.

A small pavillon, to make the waiting time more pleasant. The pavillon can be used both by the

locals and the bike-tourists, that are going along the Euro-Velo 6. It now looks like as if it would lie in the middle of nowhere but it is only 3 bike-minutes away of the village Oberarnsdorf and the villages Hofarnsdorf and Mitterarnsdorf (see fig 6 in chapter 1.2.2).

The green areas should be designed with typical elements of the Wachau region - by means of wine and apricot trees. In the few short-term parking spaces at least one barrier-free parking is to be provided. For the construction of the mobility hub a change of the land use plan is



-  streets
-  bus stop with elevated sidewalk
-  public green areas
-  nextbike rack / bike rack / bus shelter / pavillon
-  trees / apricot trees
-  wine
-  Danube

1.4

Other measures

1.4.1 Mobility nodes

Description:

The public transport stops are expanded into multimodal nodes. This is to facilitate the transfer between the different modes of transport (bicycle, village bus/taxi, regional bus, rail, cable car, ferry, ...)

The well-equipped stops are key-measures to improve the last mile. Travellers can change from their own bike to a public transport or vice versa. they can rent a bike or change to an other public transport line. Prerequisites are clocked schedules of bus lines and trains on main routes.

The mobility nodes are equipped with bike-shelters, and weatherproved waiting booths. They offer timetables of the transport lines and further information on the immediate surroundings.

Stakeholder:

Municipalities of the region
Federal transport network - VOR
Operating companies - Niederösterreichische Verkehrsorganisationsges.m.b.H. (NÖVOG) - Wachaubahn, ÖBB, Postbus, ...
Designers, business people for sponsorships

Instruments:

Resolutions of councils of the municipalities & changes of the land use plan: if the areas are not dedicated for traffic purposes
& contracts with the land owners: if the areas are not public domain

Sponsoring and design competitions could even add an extra value and promote identity and attract visitors (through artfully designed bus stops)

Timescale:

Planning phase - now
implementation phase - 2-5 years

Costs:

Construction and maintainance of bus/ bike shelters, information material, design competitions, ...

Localisation:

See map (fig. 1.2)



fig. 1.40

fig. 1.40 - roofed bike shelter

fig. 1.41 - bicycle rack



fig. 1.41

More mobility nodes in the cities of Krems and Melk

References / Further Readings:

Promote identity and even attract visitors through artfully designed bus stops.
Project BUS:STOP, Krumbach in Vorarlberg, 2014
http://www.krumbach.at/Bus_Stop_Krumbach/English , 18.05.2017

Artfully designed facilities for pedestrians and cyclists:
among others Talca in Chile Ronald Hernandez, Marcelo Valdes & Osvaldo Veliz, 2010
or Stair Squares, Brooklyn in New York, Mark Reigelmann, 2007
<https://archzine.net/einrichtungsideen/110-designs-fur-fahrradstander/> , 18.05.2017

Current bike rental system in Lower Austria:
www.nextbike.at , 04.07.2017

Mobility nodes

Goals

Well-equipped public transport stops that facilitate and attract use of public transport system ((e-) bike rental terminal, bike shelter, bus shelter, ...)

Stakeholder

Municipalities of the region, operating company - NÖVOG, federal transport network VOR

Instruments

Resolutions of councils of the municipalities, sponsorships, design competitions

Priority



Timescale



Investment costs



Running costs



Potential of participation



1.4.2. Village bus

Description:

The supply of public transport in the peripheral regions of the region is realized with (autonomously driving) village busses. Two modes of operation could be applied: a) on demand (like a taxi) to one of the mobility nodes; and b) coordinated with the regional public transport network at fixed times and fixed routes.

The goal is to connect the less densely populated areas to the public transport network and to ensure links to the village centers of the respective municipalities. However, good connections to the new mobility nodes (fast bus lines + Wachaubahn) are essential in the region. The operating times on workdays should be at least from 7am to 11am and from 2pm to 7pm.

Various solutions are possible in operation:

Non profit organisation or non profit private limited company owned by the municipalities of the region and co-financed by the federal state and private sponsoring.

The busses are either operated by members of the non profit organisation, or by employers of the municipalities or in long-term autonomously driving. Ardent pensioners, part-time retired people or young people in social service could be employed as drivers.

Stakeholder:

Municipalities of Emmersdorf, Maria Laach, Mühldorf, Bergern i. Dunkelsteinerwald, Dunkelsteinerwald (Gansbach, Maria Langegg, and other municipalities)

Instruments:

Non-profit organisation or non-profit private limited company as operating organisation
Private sponsoring
Competition for ideas for names and design of the busses to develop identification of the population with „their“ transport

Costs:

Acquisition of mini buses
implementation/programming of website/app/
ordering hotline
running costs - insurance, service, salaries, ...

Timescale:

Planning phase - now
Implementation phase - 2-5 years

Localisation:

3 areas in the municipalities of Maria Laach, Mühlendorf, Bergern (Schenkenbrunn), Dunkelsteinerwald - see map (fig. 1.2 / fig. 1.8)

References / Further Readings:

Village bus with year membership of local population, operated by a non-profit organisation: Kleinmüribisch, Inzenhof, Tshanigraben und Großmüribisch
<http://www.ubigo.at/content/>

Salzburg, Austria: <http://diepresse.com/home/techscience/hightech/5104374/Selbstfahrender-Minibus-in-Salzburg-unterwegs>, 01.05.2017

Vienna, Austria: <http://wien.orf.at/news/stories/2841026/>, 10.05.2017

Gelderland - Netherlands: <https://www.wired.de/collection/tech/den-niederlanden-verkehrerbald-fahrerlose-minibusse>
<http://wepods.com/>, 01.05.2017

Henan, China: <http://www.autonomes-fahren.de/autonomer-bus-in-henan-china/>, 10.05.2017

Village bus**Goals**

Connect the less densely populated areas to the public transport network and to ensure links to the village centers with (autonomously operated) village busses

Stakeholder

Municipalities of Emmersdorf, Maria Laach, Mühlendorf, Bergern, Dunkelsteinerwald (Gansbach, Maria Langegg, ...).

Instruments

NGO / limited organisation, competition for ideas, private sponsoring

Priority**Timescale****Investment costs****Running costs****Potential of participation**

1.4.3. Cableway Aggsbach Markt - Aggsbach Dorf

Description:

On the nearly 40 km long stretch between Krems and Melk there is only one permanent crossing possibility in the form of the bridge between Stein and Mautern. In addition, there are the ferry connections between Rossatz-Dürnstein, St. Lorenz-Weißenkirchen and Oberarnsdorf-Spitz, which are also only available during limited operating times / seasons.

Also there are already plans of a cableway between Aggsbach Markt and Aggsbach-Dorf from several sides (see further readings).

The two cable car stations will be developed as mobility nodes and will enable both tourists and locals to change to the Wachaubahn in Aggsbach Markt, or to the regional bus on the right bank of the Danube in Aggsbach-Dorf.

Stakeholder:

Municipalities of Aggsbach Markt and
Schönbühel-Aggsbach
Transport network VOR
Federal State of Lower Austria Land, NÖVOG

Instruments:

Resolutions of councils of the municipalities
& changes of the land use plan: if the areas are
not dedicated for traffic purposes
& contracts with the land owners: if the areas are
not public domain
Founding of an operating and construction
company - owned by the municipalities of

Aggsbach Markt and Schönbühel - Aggsbach
(The cableway could be alternatively operated by
the federal transport company of Lower Austria,
the NÖVOG).

Costs:

Construction 3.5 Mio
Operation (50.000 passengers / year) revenues
144.000€, costs 92.000€
(see NÖN, 2016: <http://www.noen.at/melk/schoenbuehel-aggsbach-donau-seilbahn-zahl-sich-aus/32.627.686#> , 10.05.2017)

Timescale:

Planning - now
Construction - 1 year
Opening - 2 years

Localisation:

See map (fig. 1.2)
and fig. 1.15 Aggsbach-Markt
and fig. 1.16 Aggsbach-Dorf

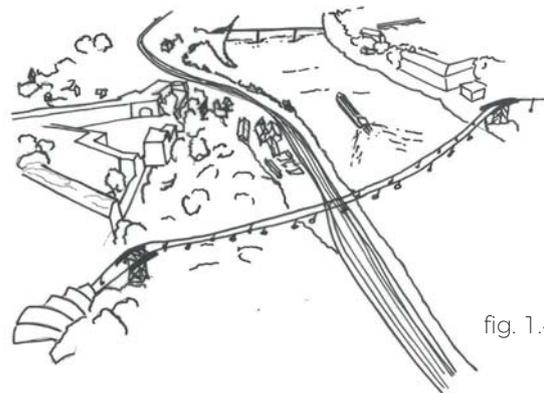


fig. 1.42

References / Further Readings:

Local newspapers

<https://www.meinbezirk.at/melk/lokales/aggsbach-gruenes-licht-fuer-seilbahn-ueber-donau-d1217500.html> , 05.05.2017

<http://www.noen.at/melk/schoenbuehel-aggsbach-donau-seilbahn-zahlt-sich-aus/32.627.686> , 05.05.2017

<http://www.seilbahn.net/sn/>

Architectural competition:

Concrete Student Trophy 2016:

<http://www.zement.at/component/content/article/7-news-teaser/440-cst-2016-preisverleihung> ,

<http://www.industriebau.tuwien.ac.at/home/news/datum/2016/11/23/concrete-student-trophy-2016-preisverleihung/> , 05.05.2017

fig. 1.42 - sketch cable car across the Danube
(example from Koblenz, Germany)

Village bus**Goals**

Cableway connection as a public transport over Danube between Aggsbach-Markt and Aggsbach-Dorf

Stakeholder

Municipalities of Aggsbach Markt and Schönbühel-Aggsbach, Transport network VOR, Federal State of Lower Austria Land, NÖVOG

Instruments

Land use plan, contracts, operating company

Priority**Timescale****Investment costs****Running costs****Potential of participation**

1.4.4. Car-free Wachau days

Description:

In order to reduce the traffic load and traffic jams by cars in the high season, on individual days and for example during the apricot blossom car-free Wachau days can be considered. The idea is to close the streets to the Wachau on pre-fixed days for motor vehicles. For buses of public transport and emergency services the access is allowed.

Already during the Wachau Marathon, the left river bank is closed for private motor vehicles. The visitors are transported by the touristic Wachaubahn and the public transport system. With the reorganized public transport concept it would be possible to set up an Car-free Wachau day on every day. However the prerequisite is that these Car-free Wachau days are announced in advance so that visitors and tourists can adjust and plan their arrival before.

The expansion or the construction of parking facilities or car parks should be dispensed with. Rather, the combination offerings with the ÖBB and the liner shipping should be extended, so that the guest gladly waive arriving by car.

Special events such as bicycle days or festivals can be organized on these days, which are marked by the car-free Wachau topic. In addition to the new public transport system, boat taxis could offer their service on the Danube river, to chauffeur visitors to their desired destination.

Stakeholder:

Municipalities of the region
Tourist organisations of the region (Donau Niederösterreich Tourismus GmbH, Regionalbüro Wachau - Nibelungengau - Krems tal, Niederösterreich-Werbung GmbH)
Federal transport network - VOR
Niederösterreichische Verkehrsorganisationsges.m.b.H. (NÖVOG) - Wachaubahn, ÖBB, Postbus, ...
Designers, business people for sponsorships

Instruments:

Administrative orders for road closings, public relations

Costs:

Marketing costs, additional rides of public transport lines, signation of detours, ...

Timescale:

Planning now
Implementation 1 year

Localisation:

Access roads to the Wachau Valley from the hinterland and the Danube bridges near Melk Emmers and Mautern Stein (B 6 and B 66) are closed for car traffic. The bridges can be crossed, only the junctions towards Spitz and Rossatz-Arnsdorf are not passable.

References / Further Readings:

Wachau Marathon-Road blockage and detours, 2016: <http://www.wachamarathon.com/rund-um-das-rennen/race-weekend/strassensperren-und-umleitungen/>, 06.07.2017

Car-free bike adventure day Attersee, 2017: <http://attersee.salzkammergut.at/startseite/oesterreich/veranstaltung/430002952/21-autofreier-rad-erlebnistag-attersee.html>, 06.07.2017

Car-free Gelbach day, 2017: <http://www.gelbachtaltag.de/>, 06.07.2017

Car-free Gelbach day-Flyer, 2017: <http://www.gelbachtaltag.de/Gelbachttag.pdf>, 06.07.2017

Car-free Wachau days

Goals

Reduction of car traffic in the Wachau, awareness rising (both for locals and visitors) for ecomobility

Stakeholder

Municipalities, tourist organisations, federal organisations, transport networks, ...

Instruments

Administrative orders for road closings, public relations

Priority



Timescale



Investment costs



Running costs



Potential of participation



1.4.5. Wachauladen - Wachau shop

Description:

The so-called „Wachauladen – Wachau shop“ offers locals as well as tourists an opportunity to buy things of their daily needs in their own village, to relax and meet in the integrated café and to buy regional food and products. Local winegrowers and farmers can offer their products produced in the region, such as wine, fruit and vegetables, jams, eggs or meat and other regional specialties.

The “Wachauladen” could become a regional brand, behind which stands an association whose members are winemakers, farmers and all those interested in the region itself. Different locations, municipalities, which are currently disadvantaged opposite other villages in the local supply, would be suitable for the opening of a “Wachauladen” - an example of this is the village Unterbergern in the municipality of Bergern im Dunkelsteinerwald. Currently, the next shop is located in Mautern an der Donau and is therefore only very difficult to reach by foot or by bike, the last tavern in the village has quit it's business (with the exception of some Heurigen, which have not opened all year), Unterbergern is a popular residential area for young families, and in recent years has opened a school with kindergarten. Unterbergern would thus be an ideal location for a “Wachauladen” - a meeting point for young and old, where you can buy regional products and things for everyday's life.

A delivery service or mobile supermarket could be realized by means of a bus to supply other places that do not have a supermarket. The “Wachauladen” should, if possible, be located in a currently unused building, to give it a new usage.

Stakeholder:

All Wachau municipalities, example: Bergern im Dunkelsteinerwald; winegrowers, farmers, people who are interested in regional product marketing, supermarkets,...

Instruments:

Private Sponsoring
Non-profit organisation (Verein, GmbH)
support of supermarkets – franchise
online-platform (for delivery service and marketing)

Costs:

Rent, renovation works, salaries, ...

Timescale:

Implementation 2-5 years

Localisation:

Example: Bergern im Dunkelsteinerwald
possible other locations: all villages without local supply (see chapter 1.6)

References / Further Readings:

New shop in Langenlois (Lower Austria, 10 km north from Krems) with integrated cafe for all generations - <http://www.langenlois.at/rathaus/aktuelles/neuer-nahversorger-in-langenlois.html>, 01.07.2017

„Genussregal“ Styria – shop with local products, restaurant and guided tours where production of the different goods are explained and shown - <http://www.genussregal.at>, 01.07.2017



fig. 1.43

fig. 1.43 Shop with local products

Wachauladen - Wachau shop

Goals

Local supply of population with regional food and products, sales opportunities for local producers

Stakeholder

Municipalities, wine growers, farmers, regional organisations

Instruments

Non-profit organisation (Verein, GmbH)
support of supermarkets – franchise
online-platform

Priority



Timescale



Investment costs



Running costs



Potential of participation



1.4.6. New usage of the „Wachaubahn“ train station buildings

Description:

Along the “Wachaubahn” line there are some stops with historic train station buildings from the beginning of the 20th century, that all have a speciality of their design – all of them look similar to the others, they form an ensemble. Within our ideas of the reinstatement of the Wachaubahn as a public transport, these train station buildings should get a new use again. These types of building are located in Krems-Stein, Dürnstein, Weissenkirchen, Spitz, Aggsbach Markt and Emmersdorf. In contrast to the other buildings, the two last mentioned buildings have a slightly modified roof shape.

With our vision “Mission possible” we want to provide mixed-used village centres with the possibility of multimodal mobility. Therefore the train stations are an important factor. To make commuting or travelling more comfortable and interesting, the buildings of the train stations should be integrated in our concept. Currently some of them are not used or underused, with exception of Dürnstein – there is a saffron manufactory with an integrated shop resident in the train station building.

Suggestions for new uses: Café, tourist office, work office, bakery, bank service, post office, kiosk, grocery store, travel agency, information desk, ticket office, museums, creative studios or maybe some of these suggestions can be integrated in a “Wachauladen” (see chapter 1.4.5)

Stakeholder:

Municipalities with the described train station buildings, NÖVOG –Lower Austrian Traffic Organisation Company as owner of the line, BDA - Federal Office of Historic Monuments of Austria due to the protected train station buildings, stakeholders depending on the different usage (example: Austrian post company, bank institutes, supermarkets – groceries, travel agencies, tourism associations,...)

Instruments:

Private Sponsoring - support of different companies (depending on the usage), contract between NÖVOG and the future user companies

Costs:

Renovation works, administration costs, ...

Timescale:

Implementation 1-3 years



fig. 1.44

Localisation:

Krems-Stein, Dürnstein, Weißenkirchen, Spitz, Aggsbach Markt, Emmersdorf



fig. 1.45

fig. 1.44 Train station Spitz a. d. Donau

fig. 1.45 Train station Weißenkirchen

References / Further Readings:

Semmering-Bahn – Austria, Lower Austria, UNESCO World Heritage – train station building used as museum. <http://www.semmeringbahn.at/index.php>, retrieved on 04.07.2017

Municipality of Simmern – Germany, Rheinland-Pfalz, 2015: municipality owned train station building to give it a new usage. http://www.rheinzeitung.de/region/lokales/hunsrueck_artikel.-weg-fuer-neue-nutzung-ebnen-stadt-simmern-kauf-den-alten-bahnhof-_arid.1254434.html, retrieved on 04.07.2017

Train station buildings of the “Heidekrautbahn” train line in Germany, Brandenburg, 1991-1998 – New usage for 16 train station buildings (residential use, shops, tourist information,...) http://www.mil.brandenburg.de/media_fast/4055/8_NEB_Bahnhoefe.ppt, retrieved on 04.07.2017

New usage of the „Wachaubahn“ train station buildings**Goals**

Re-use of train station buildings, mixed-used village centers, reduce of vacancy

Stakeholder

Municipalities, NÖVOG, Federal Office of Historic Monuments (BDA)

Instruments

Private sponsoring, contract between NÖVOG and BDA

Priority**Timescale****Investment costs****Running costs****Potential of participation**

1.5.1 Implementation and time horizon

Various time horizons are conceivable for the implementation of the projects.

Most of our projects, such as the conversion of vacant buildings or the measures to improve pedestrian and bicycle infrastructure can be implemented at any time. Other projects, such as the Wachaubahn must be implemented in coordination with the reorganization of the public transport system. However, the implementation in the near future would be desirable.

In theory the reinstatement of the Wachaubahn could be implemented within a very short period. Also the reorganisation of the public transport systems could start very early but has to be coordinated with the other traffic related measures. Though the improvements to the infrastructure, especially the crossings of the railway tracks or the platforms will take some years to be realized.

Clearly, rapid implementation is also a cost issue. However, private sponsorship could reduce the costs for some projects.

1.5.2 Conclusion

The Wachau is a beautiful region with a rich heritage, both in cultural and natural terms. That is why every year many people come to visit the region. Many aspects of the region have already been developed at a high level. With our projects, we want to achieve above all improvements for the people living in the region.

Despite the limitations due to the Unesco World Heritage regulations in building and settlement development still life and development should be possible in the region to allow the local population to raise their children there and to secure an economic survival. Improving the public transport system should make traffic more ecological and future-proof. However, is also a way to increase mobility and enables people (both young and old), with no driving license or motor vehicle to live an independent and self-determined life. Also dense settlements with short distances are beneficial not only from an ecological but also from a social perspective.

Looking back on the semester, working on the project in the Wachau and in the workshops in Krems, Budapest and Štúrovo/Esztergom with students from other countries was a valuable experience.

1.6

Further analysis of community infrastructures

1.6 Further analysis of community infrastructures

1.6.1 Community infrastructure (date 30.04.2017)

In the following, the social infrastructure of the respective localities of all Wachau municipalities (except for the cities of Krems and Melk) is tabulated. Both internet sources and on-site

observations were used for the research. All sources are listed in the bibliography (chapter 1.7) under „Community infrastructure“.

Aggsbach-Markt

Villages	Population (2011)	Municipal office/ town hall	Kindergarten	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Aggsbach Markt	409	1	1	1			1			1	1	1	1	Main village
Groisbach	75													
Köfering	30													
Willendorf in der Wachau	169													
Total	683	1	1	1	0	0	1	0	0	1	1	1	1	

Bergern im Dunkelsteinerwahl

Geyersberg	26														
Maria Langegg	40														
Nesselstauden	61														
Oberbergern	324		1	1			(1*)								
Paltmühl	18														
Plaimberg	10														
Scheiblwies	67														
Schenkenbrunn	151														
Unterbergern	492	1								1	1		1		
Wolfenreith	63														
Total	1252	1	1	1	0	0	(1)	0	0	1	1	0	1	*Planning stage	

No clear main village

Dürnstein

Villages	Population (2011)	Municipal office/ town hall	Kindergarden	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Dürnstein	340	1		1			1*	1				1*	1*	No clear main village
Dürnsteiner Waldhütten	54													
Oberloiben	142													
Rothenhof	10													
Unterloiben	322		1						1	1				
Total	868	1	1	1	0	0	1	1	0	1	1	1	1	*Near train Station

Emmersdorf an der Donau

Emmersdorf an der Donau	686	1	1	1		1	1	1		2	2	1		Main Village
Fahnsdorf	75													
Goßam	263													
Grimsing	133													
Hain	126													
Hofamt	103													
Luberegg	11													
Mödelsdorf	27													
Pömling	58													
Rantenberg	32													
Reith	31													
Schallemmersdorf	46													
St. Georgen	129													
Total	1720	1	1	1	0	1	1	1	0	2	2	1	0	

1.6 Further analysis of community infrastructures

Furth bei Göttweig

Villages	Population (2011)	Municipal office/ town hall	Kindergarten	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Aigen	127													
Furth bei Göttweig	1492	1	2	1	1		1*	1	1	2	9	2	1	Main village
Klein-Wien	86													
Oberfucha	150													
Palt	793									1	1			
Steinaweg	224													
Stift Göttweig	39													
Total	2911	1	2	1	1	0	1	1	1	3	10	2	1	*Between Furth a. Palt

Maria Laach am Jauerling

Villages	Population (2011)	Municipal office/ town hall	Kindergarden	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Benking	33													
Felbring	37													
Friedersdorf	40													
Gießhübl	5													
Haslarn	36													
Hinterkogel	17													
Hof	20													
Kuffarn	50													
Litzendorf	28													
Loitzendorf	100													
Maria Laach am Jauerling	226	1	1	1			1			1	1	1		Main village
Mitterndorf	5													
Nonnersdorf	35													
Oberndorf	32													
Schlaubing	38													
Thalham	15													
Weinberg	19													
Wiesmannsreith	29													
Zeißing	114													
Zintring	68													
Total	947	1	1	1	0	0	1	0	0	1	1	1	0	

1.6 Further analysis of community infrastructures

Mautern an der Donau

Villages	Population (2011)	Municipal office/ town hall	Kindergarden	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Baumgarten	162													
Hundsheim	236													
Mautern an der Donau	2816	1	1	1	1		2		1	5	6	1	1	Main village
Mauternbach	251													
Total	3465	1	1	1	1	0	2	0	1	5	6	1	1	

Mühldorf

Amstall	38													
Elsarn am Jauerling	183													
Mühldorf	351	1					1			1	1	1	1	Main village
Niederranna	135		1*	1*										
Oberranna	19													
Ötz	180													
Ötzbach	89													
Povat	112													
Trandorf	286		1											
Total	1393	1	2	1	0	0	1	0	0	1	1	1	1	*Near Mühldorf

Rossatz-Arnsdorf

Villages	Population (2011)	Municipal office/ town hall	Kindergarden	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Bacharnsdorf	37													No clear main village
Hofarnsdorf	93			1										
Mitterarnsdorf	175							1						
Oberarnsdorf	187								1	1				
Rossatz	368	1	1				1		1	1	(1*)			
Rossatzbach	95													
Rührsdorf	117													
St. Johann im Mauerthale	3													
St. Lorenz	23													
Total	1098	1	1	1	0	0	1	1	0	2	2	(1)	0	*Planning stage

Schönbühel-Aggsbach

Aggsbach-Dorf	420	1		1						1	1			No clear main village
Aggstein	57													
Berging	79													
Gschwendt	0													
Hub	70													
Schönbühel an der Donau	341		1						2	1				
Siedelgraben	9													
Wolfstein	57													
Total	1033	1	1	1	0	0	0	0	0	3	2	0	0	

1.6 Further analysis of community infrastructures

Spitz

Villages	Population (2011)	Municipal office/ town hall	Kindergarden	Primary school	Secondary school	Polytechnic secondary school	Grocery	Bakery	Pharmacy	Medical practices/ centres	Medical disciplines	ATM	Postal service partner	
Gut am Steg	147													
Schwallenbach	114													
Spitz	1288	1	1	1	1		1	1	1	2	2	2	1	Main village
Vießling	131													
Total	1680	1	1	1	1	0	1	1	1	2	2	2	1	

Weißkirchen in der Wachau

Joching	178													
St. Michael	25													
Weißkirchen in der Wachau	916	1	1	1			1	1		1	2	1	1	Main village
Wösendorf in der Wachau	313							1						
Total	1432	1	1	1	0	0	1	2	0	1	2	1	1	

DANILIDE

WASSER

Rivering

Bianca Jahr
Julia Rapp
Stefanie Schmid

2.1

Problem statement and description of the concept

2.1 Problem statement and description of the concept

The lack of local supply in each municipality, the missing connection between the municipalities, the access to the Danube river and also the connection along the Danube, the North-South discrepancy and the mass tourism are only a few problems that were visible in the creation process of the SWOT analysis. In the elaboration, also opportunities were visible, such as already existing structures like activities or events in the region, or even the partially well constructed promenade.

Due to the problems and challenges in the region Wachau, Lower Austria and its characteristic nature and culture, it is important to create a project, which develops the region with regard to its characteristic and avoid the problems in a sustainable way. Sustainable can be explained as a future development, which has consideration for the next generations, the environment and the nature in few years.

For this, the project Danube Rivering, was created. Danube Rivering is composed of river (Danube) and reviving, which means that something gets developed, gets reshaped, gets better. The concept of this project is that the region Wachau should be strengthened in, and measures should be based on, the already existing structures and the region should be enlarged in its regional strengths. Therefore three projects are created to revive the region. For a successful function it is important that the projects are viewed as an overall picture rather than individually.

In the first project - Dandering along the Danube - the main problem is the lack of connection in the region along the Danube and the access to the Danube riverbank. Therefore the focus is set on the promenade. Which is, as already mentioned, mostly well developed, but also has a given potential for expansion. The second project - Exploring around the Danube - is about tourism aspects, because of the existing problems in the Wachau: the tourism is temporarily and tends to mass tourism. The third project - Living at the Danube - covers the areas of the region, which are intended for the whole population. The main problem concerning the locals is the lack of local supply in peripheral regions. Other aspects which have a need to catch up are the passing on of local knowledge to the next generations and the mobility for the inhabitants.

Starting with this basic knowledge, three pilot projects, with three different foci, have been developed. Furthermore, different goals have been set, concerning the future development of the Wachau region. It is important to build on existing structures and to develop those not only for tourists, but also for the local population.

The three foci of the project Danube Rivering were developed of profound problems of the Wachau valley. Each focus specialises in an important part of the region, which are the promenade (Danube Dandering), the tourism (Danube Exploring) and the local people (Danube Living). In the Wachau the cultural landscape and the

nature are essential for the development of the region because a lot of people earn their money with it, for example farmers and winegrowers. The river Danube plays a major role in the formation of the Wachau valley. The river has carved itself into the ground and so the water gap valley was developed. To preserve the unique natural conditions for the local inhabitants but also for the tourists the focus of „Danube Dandering“ was created. The focus depicts the importance of the river in the region and helps to maintain the natural conditions. One of the goals of this focus is the development of the promenade in a vertical and in a horizontal way. This means that the promenade along the Danube and also the connections to the villages should be established. The goal is to reveal and enlarge the already consisting structures, which are rich in variety, in fact of walkways or routes through vineyards, orchards and villages, or along the Danube riverbank. Furthermore, a promenade should be established on both sides of the Danube. These measures lead to a promenade, where people can enjoy the variety of the nature, the landscape, the tradition and the culture in the region. Another important part of the promenade is the created connection of the whole region and its inhabitants.

As already mentioned the Wachau region is famous for its cultural landscape. Due to the uniqueness of the valley, a lot of tourists are attracted. In the high season a lot of people stream in the region, which can damage the

natural conditions. So in the second project – Danube Exploring - the focus area is on tourism. The tourism should develop in a sustainable way. This means that the tourism is environmentally friendly and brings benefits for the local people. Therefore an electric mobility system (ELMO) is established. With this project the traffic volume should be reduced. Moreover the tourism sector could be specified in back to roots tourism, which means the focus on soft tourism. Furthermore, events are going to be created over the whole region, like a medieval festival in the ruins and castles. Those events are only taking place in spring, summer and autumn. Wintertime should be a recovery season for the nature and also for the local people.

In spite of the development of the tourism, the local people should not be forgotten. It is important to find benefits in tourism also for local people. So the third project part – Danube Living - consists of measures which should revive the region for the locals. The goals are to ensure the local supply (which is a challenging task especially in the peripheral parts of the region) and to extend the local mobility. To preserve the unique cultural landscape, for example with its dry stone walls, the knowledge about the culture of living should be passed on the next generations. Furthermore it is important that not only the children, but also the adults, learn about the traditions and the culture of the region.

DANIUBE

R i v e r i n g

Dandering
along
the Danube

Exploring
around
the Danube

Living
at
the Danube

DANIUBE
D a n d e r i n g

DANIUBE
E x p l o r i n g

DANIUBE
L i v i n g

problems and challenges	lack of connection in the region, access to the Danube improvable	tourism is temporarily and tends to mass tourism	lack of local supply in the peripher regions
focuses			
	establishing a promenade	focus on soft tourism	finding benefits for locals
projects	new walkways	ELMO	WaGro (Wachau Grocery)
	activity / resting places	back to the roots tourism	project days for children
	guidance system	theme based events	project days for adults
	flood protection guideline	new marketing strategy	dial-a-ride transit
	lighting concept		hop on hop off bus
	vertical access to villages		
	food services		
	integrate viewpoints		

2.2

Dandering along the Danube

2.2 Dandering along the Danube



fig. 2.0

The focus of the first project is the establishment of a promenade on both sides of the Danube riverbank. For an establishment of a promenade, it is necessary to define what a promenade is at first. In this project, a promenade is defined as a wide, well-kept walkway with a beautiful view. But not only the view of POIs, also enjoying nature and landscape of the region are elements of the promenade. The focus is to establish a promenade, where people can get in contact with the nature, tradition and culture of the region Wachau, in a passive and an active way. Therefore the enjoying of the uniqueness of the region is one point. Another point is to learn more about the region in interactive parts. Activity places like harvesting grapes or apricots, which represent the most famous product in the region – the Wachauer Marille, are intended to bring closer the specific peculiarities of the region. Furthermore, places, where people can rest and enjoy the beautiful landscape of Wachau, like swimming places should be provided along the Danube. The promenade can lead to a connection between the municipalities in the region and moreover a promenade can be established in other regions and so a network through all regions and countries along the Danube will be constituted.

2.2.1 Establishment of a new promenade

Due to the deficient access to the Danube riverbank, one of the goals of this project is the development of a promenade in a vertical and in a horizontal way (a vertical access to the villages and a horizontal way along the Danube). Furthermore, offering a variation of the landscape, culture and tradition should be implemented in the project. For this, it is important to create promenade routes rich in variety and add different elements in form of resting and activity places. Another point is to integrate flood protection, since there is a flood problem in the region. Moreover, a local food service should be provided along the Danube. For better navigation, a guidance system should be installed at the promenade to guide the tourists along the Danube and assure sight lines to points-of-interests (churches, ruins, monasteries).

fig. 2.0 - visualization promenade

2.2 Dandering along the Danube

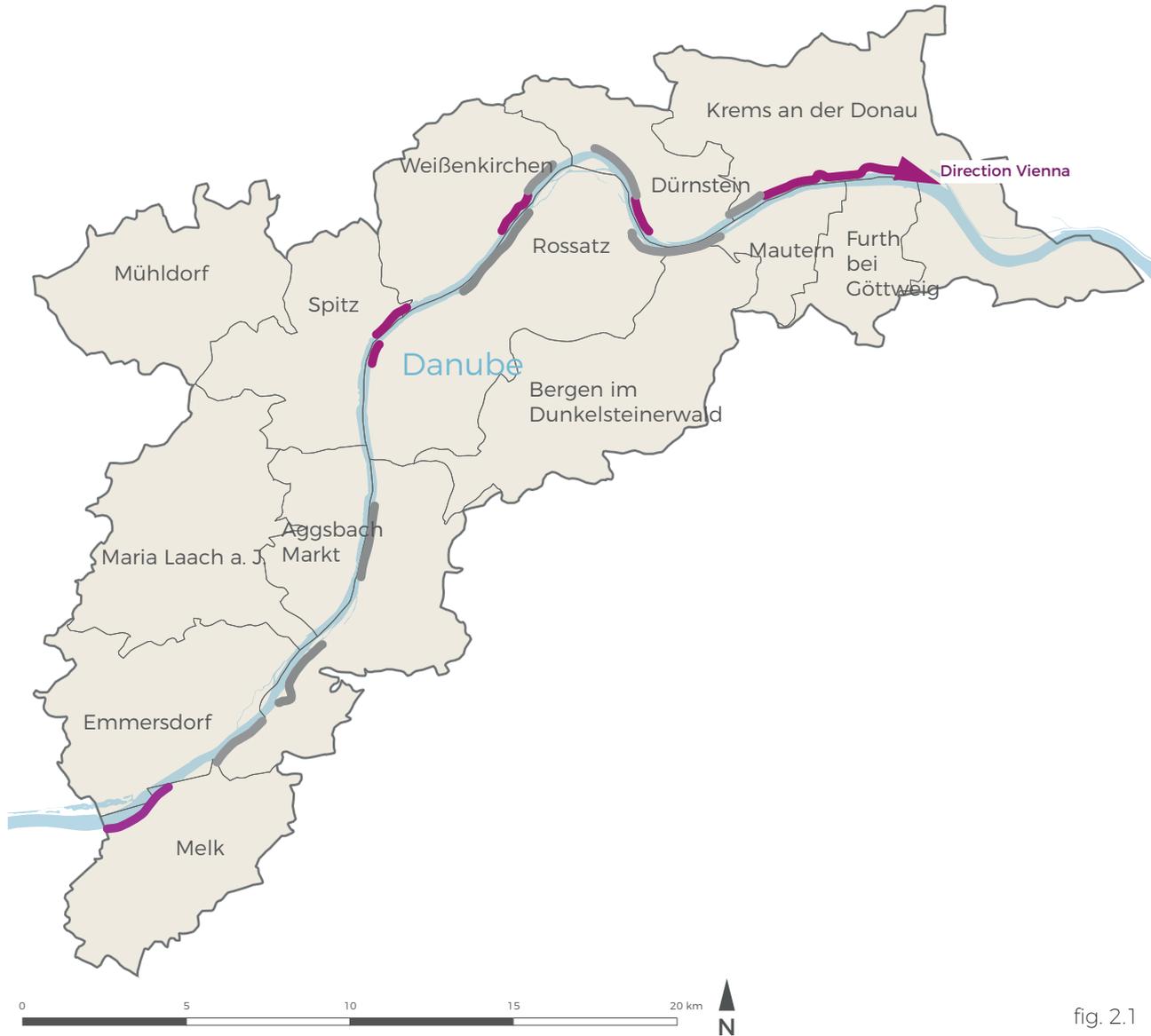


fig. 2.1

Existing promenade routes

At first, a research about the existing structures of promenades is of importance. In the whole region five segments of promenade exist (violet routes on the map). Especially in Krems, Dürnstein and Spitz/Donau, promenades are already present. These are promenades, which can be described as asphalted walkways along the Danube with sitting accommodations and a lighting design. In Weißenkirchen and Melk, the promenade is also a walkway along the Danube, but it is more nature touched, because of the green area and a better access to the Danube. The routes in grey (fig. 2.1) are walkways along the federal highway. These walkways are directly beside the street and coincident with the bicycle way, which makes them less attractive for pedestrians.



- walkway along the Danube
- walkway along the federal highway

- fig. 2.1 - existing promenade routes
- fig. 2.2 - walkway along the Danube
- fig. 2.3 - walkway along the Danube - Spitz/Donau
- fig. 2.4 - walkway along the Danube Krems/Donau

2.2 Dandering along the Danube

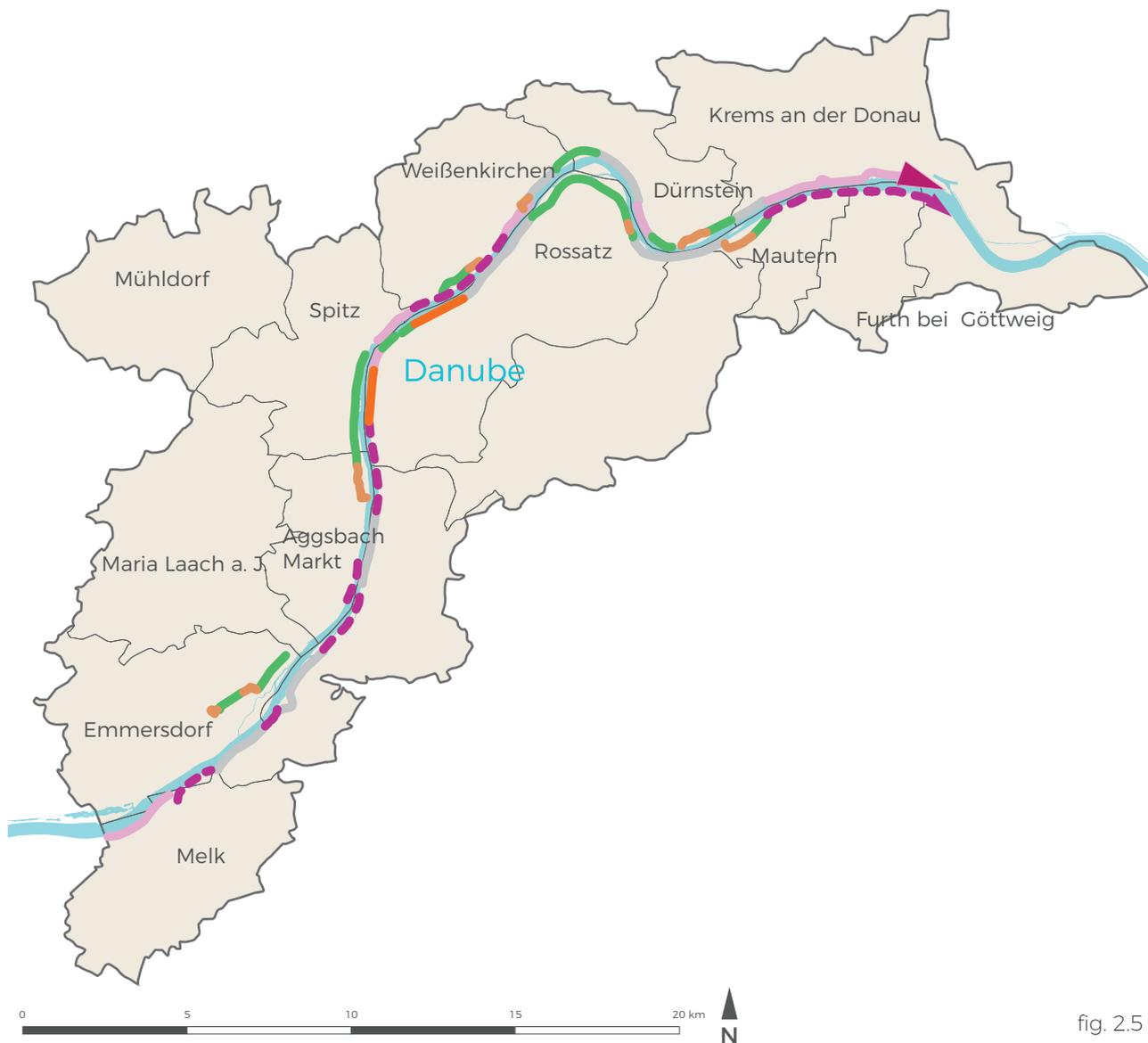


fig. 2.5

New Promenade Routes

As already mentioned, routes, rich in variety, should be established along the Danube. Due to the different structures in the landscape, a variety of walkways through the region is advised. In addition to the walkways, which are directly along the Danube, walkways through the villages, the vineyards and the apricot orchards should be established. On the map (fig. 2.5), routes are painted in different colours. The dark yellow routes are walkways through small villages. Many of these buildings are under monumental protection. The building culture of the last years can be viewed in these villages and therefore it is interesting to integrate this heritage in the planning of the promenade. While walking through vineyards (green routes), tourists can notice winegrowers and their farming – cultivating and harvesting grapes – depending on the season. The dry stone terraces for the wine are also a characteristic element of the landscape of the Wachau, which should be integrated in the promenade. The orange routes show walkways through apricot orchards, similar to the vineyards, the apricot farmers and their agriculture living can be watched.

-  walkway along the Danube
-  walkway through villages
-  walkway through vineyards
-  walkway through apricot orchards

During the apricot blossom, the beauty of the landscape with its flourishing apricot trees can be admired. The violet dashed lines show the potential for walkways along the Danube. Hence, a construction with sitting accommodations and a lighting design can upgrade the promenade.



fig. 2.5 - new promenade routes

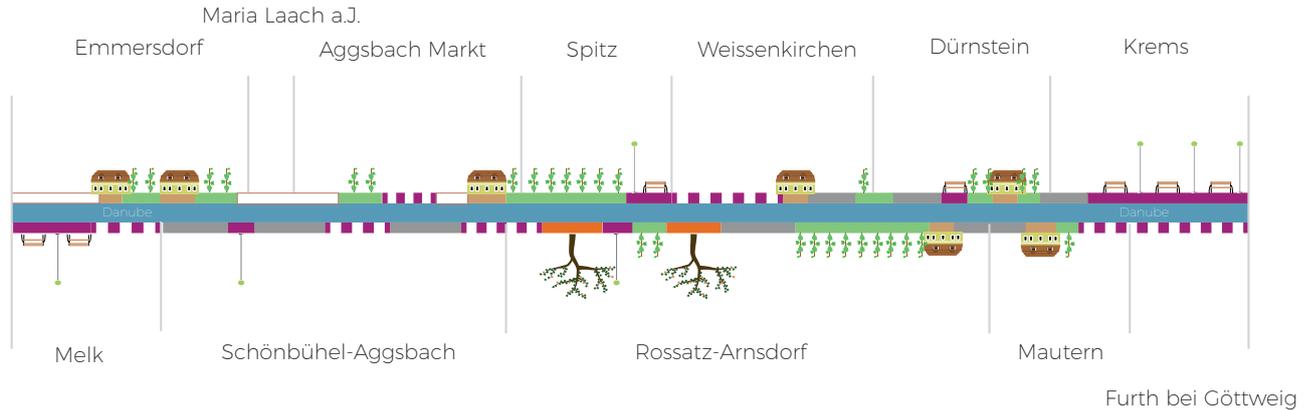
fig. 2.6 - walkway through the village Weißenkirchen

fig. 2.7 - walkway through apricot orchards

2.2 Dandering along the Danube



fig. 2.8



Furth bei Göttweig

fig. 2.9

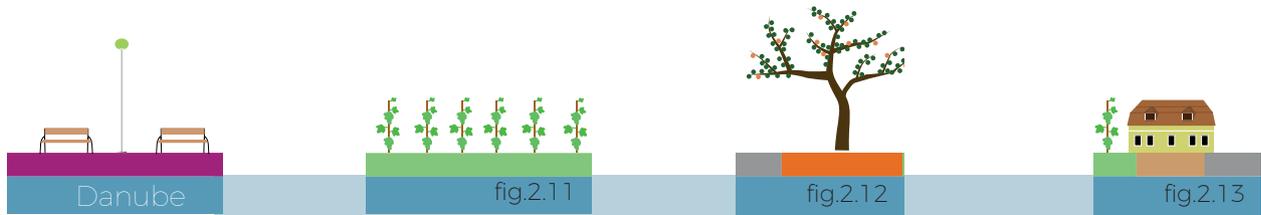


fig 2.10

along the Danube ...

fig.2.11

through vineyards ...

fig.2.12

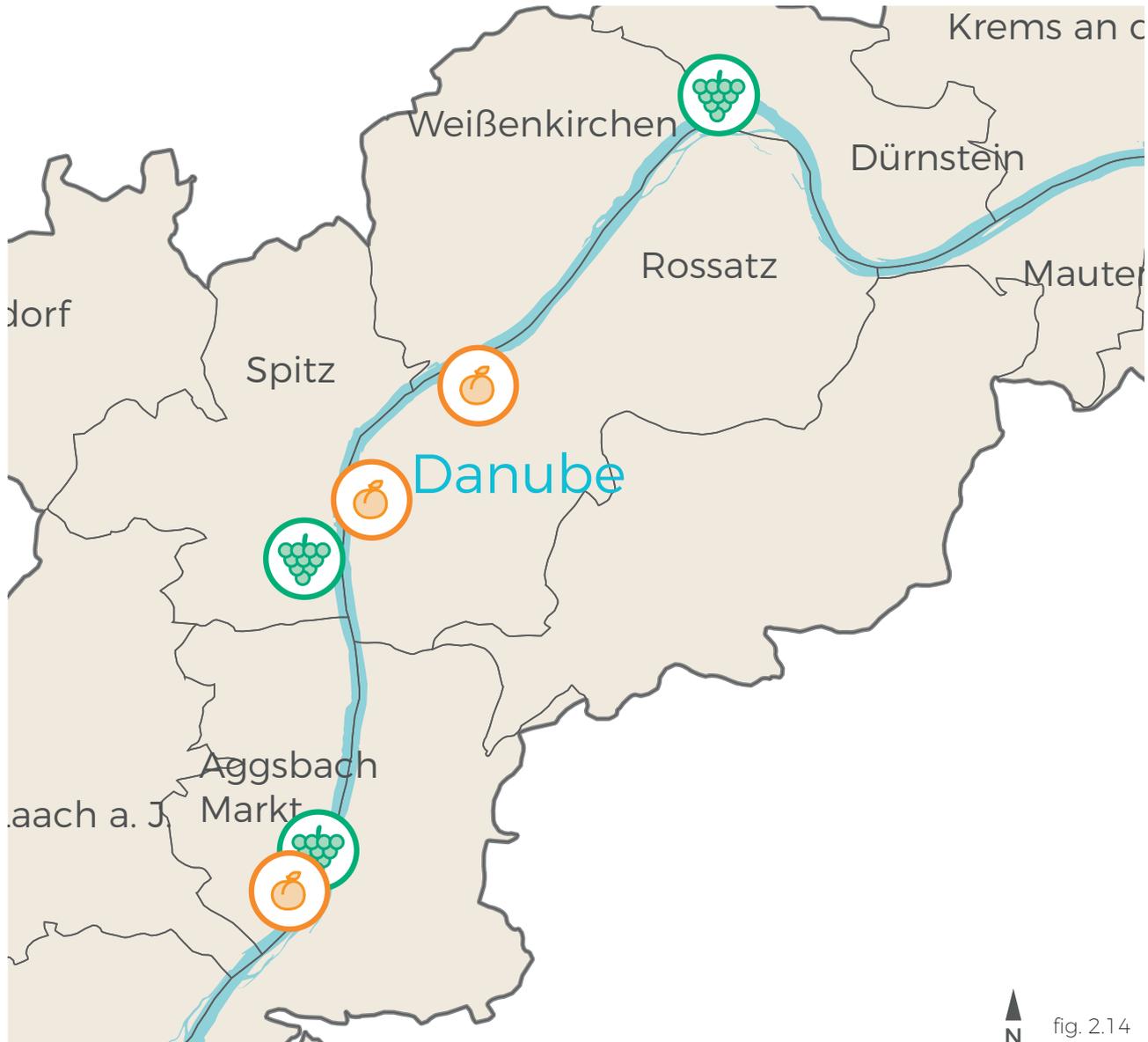
through apricot orchards ...

fig.2.13

through villages ...

- fig. 2.8 - walkway through vineyards
- fig. 2.9 - new promenade routes - section of the area
- fig.2.10 walkway along the Danube with sitting accommodations and a lighting design
- fig.2.11 walkway through vineyards
- fig.2.12 walkway through apricot orchards
- fig.2.13 walkway through villages

2.2 Dandering along the Danube



2.2.2 Activity places along the Danube

Along the promenade activity places should be implemented. Those places should include the tradition and the culture of the region. For example at these activity places people can harvest their own apricots or grapes. For this, a cooperation with the local farmers is essential.



vineyards: there, people can harvest their own grapes



apricot orchards: there, people can harvest their own apricots

An activity place can be a garden, which is open for the public. There, people can buy a basket at a local farmer to fill the basket with fruits, which can be picked by themselves from an apricot orchard or a vine stock. Furthermore, local farmers can tell about their work, how to harvest grapes and even about the tradition about the building of dry stone terraces.

This project will help to emphasize the tradition and the uniqueness of the landscape of the region Wachau.

Activity places along the Danube

fig. 2.14 - activity places along the Danube

Goals

include a variety of elements (cultural landscape), emphasize the tradition and the uniqueness of the landscape

Stakeholders

municipalities, region Wachau, locals, winegrowers, apricot farmers, federal state government

Instruments

sponsorships, cooperations, information

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2 Dandering along the Danube

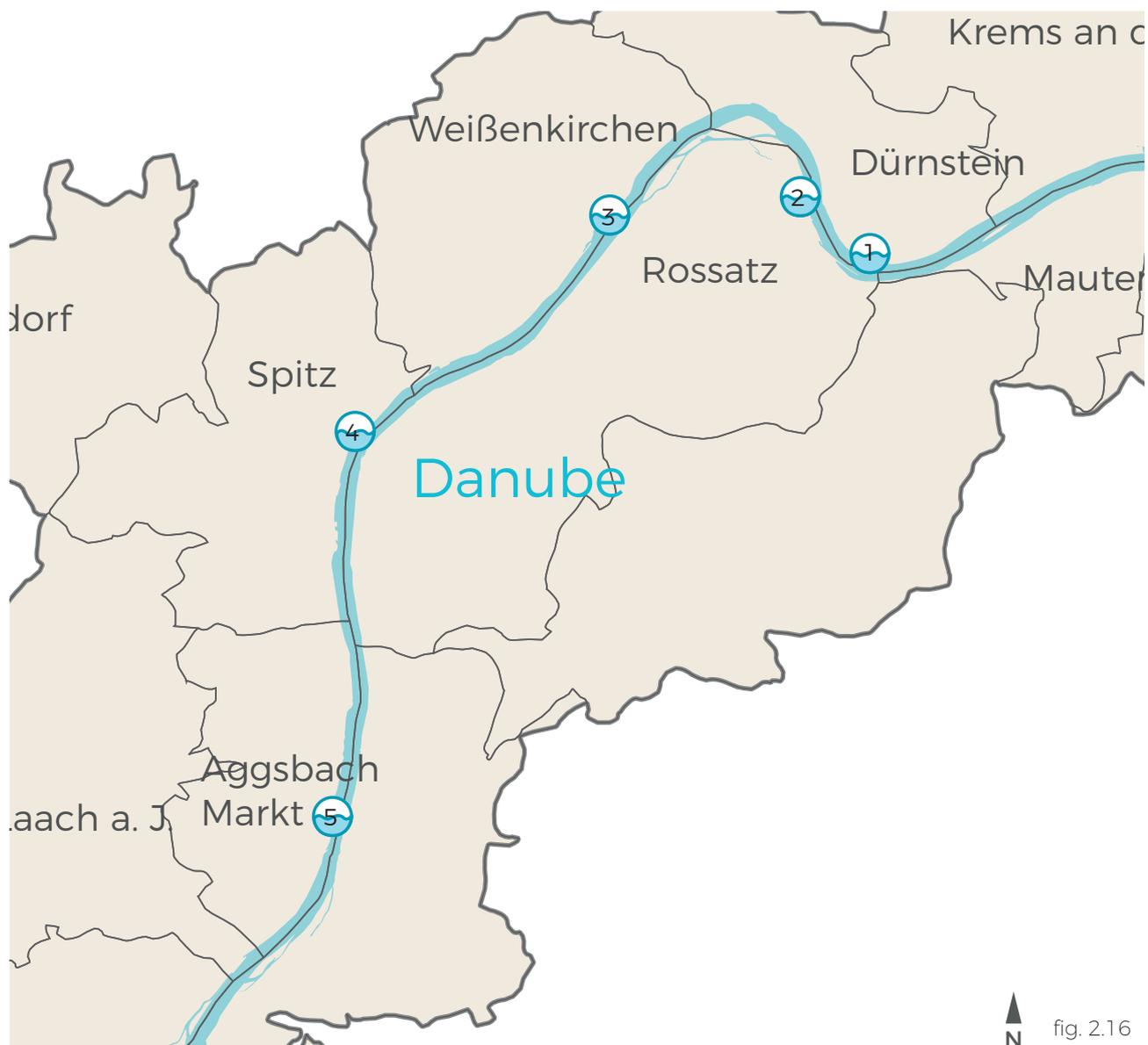


fig. 2.16

2.2.3 Resting places along the Danube

One of the main goals of this project is to guarantee a direct access to the Danube. Resting places must be provided alongside the Danube, in case people want to take a break from their long walk. Those resting places cannot only be found in form of sitting accommodations but also particularly in form of bathing possibilities and beaches. The Danube can be defined as a bathing water, which can be used for bathing and swimming. The minimum requirements for the quality of water to swim and their management are defined in Guideline 2006/7/EC (Bathing Water Directive) for the Member States of the European Union. (acc. to Wikipedia Badegewässer, 2017). Swimming possibilities along the Danube are given, but they are not very attractive. To revalue the beaches, landfilling with sand and decorating with new plants must be implemented. Another point is to create possibilities to lend sunshades and sunbeds, to install dressing rooms and sanitary facilities to ensure a hygiene standard.

The following areas can be seen as potential areas to remodelling beaches:

- ① potential area near to the Kuenringer Freibad
- ② beach Rossatz-Arnsdorf
- ③ Donaustrand Weissenkirchen
- ④ beach Spitz/Donau
- ⑤ Flussbad an der Donau - Aggsbach Markt



fig. 2.17



fig. 2.18



fig. 2.19

fig. 2.16 - bathing possibilities along the promenade

fig. 2.17 - bathing possibility in Dürnstein

fig. 2.18 - bathing possibility Rossatz

fig. 2.19 - Flussbad an der Donau, Aggsbach Markt

2.2 Dandering along the Danube

Vision Donaustrand Weißenkirchen



fig. 2.20

Donaustrand Weißenkirchen



fig. 2.21

Therefore, areas, which are near to beaches, can be used. Near to the Kuenringer open-air-bath, a potential area with 1200 m², is used as a sports area. 100 metres besides there is a beach, which can be turned into an attractive bathing place by raising with sand and connecting it with the sports area. The potential area can be converted and furnished with a mobile food service (see chapter „2.4.1 WaGro - Wachau Grocery“).

Another potential area is near to the Donau-strand Weißenkirchen. This area amounts to 2000 m² and offers enough place for a mobile food service, huts to lend sunshades and sunbeds. For this, a finance investment of the municipalities and a sponsorship of the federal state of Lower Austria is necessary. A cooperation with local companies, like food service providers or commerce can help to implement this project.

To convert these areas, a change in the land

use plan is essential. This must be done by the respective municipality. To ensure that the potential areas are not only used in summer, they could be used for other activities / events in spring and autumn to make the promenade lively in other seasons as well (for more information about events see chapter „2.3.3 Theme based events“). In Aggsbach-Markt, the potential area, which is about 3.500 m², is next to apricot trees and vine stocks. Here, in addition to an activity place where apricots and grapes can be picked, a temporary market in spring and autumn could sell regional products. Furthermore, the area can also be used for festivals in the region.

fig. 2.20 - Vision Donaustrand Weißenkirchen, own visualization

fig. 2.21 - visualization Donaustrand, own edit, base map: google maps

Resting places along the Danube

Goals

guarantee a direct access to the Danube, provide bathing possibilities along the Danube

Stakeholders

municipalities, region Wachau, landowners, local food service providers, associations, investors, federal state government

Instruments

finance investments, sponsorships, cooperations, change in land use plan, building plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2.4 Food service as ‚eatertainment‘

Because of the poor local food supply in the region, it would be desirable to implement food service at the beaches. To provide this service, cooperations with restaurants and food service industry are necessary.

Beside the classic variant ‚terraces on the water‘, catering in form of swimming islands, like at the Old Danube in Vienna, can be established. These facilities can be used as terraces in front of restaurants or cafés and are used for a mix of food service and entertainment - the so called ‚eatertainment‘. Therefore, people can lend the swimming islands for private celebrations or book them for concerts. For this, the federal state of Lower Austria can sponsor the region by purchasing these swimming islands, which are

interesting because of their special form and usability. In order to prevent drifting, swimming islands can be attached to docks with the help of ropes. To ensure safety, all swimming islands are equipped with life jackets and the decks are non-slip coated. (acc. to meine.insel.at, 2017) Mobile booths with regional products or the rolling supermarket (see chapter „2.4.1 WaGro - Wachau Grocery“) at beaches are preferable, because in case of a flood they can easily be dismantled, unlike buildings (f.e. kiosks).

Food service as ‚eatertainment‘

Goals

guarantee local supply along the Danube

Stakeholders

local food service providers, caterer, federal state government, municipalities

Instruments

finance investments, cooperations, change in land use plan, building plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



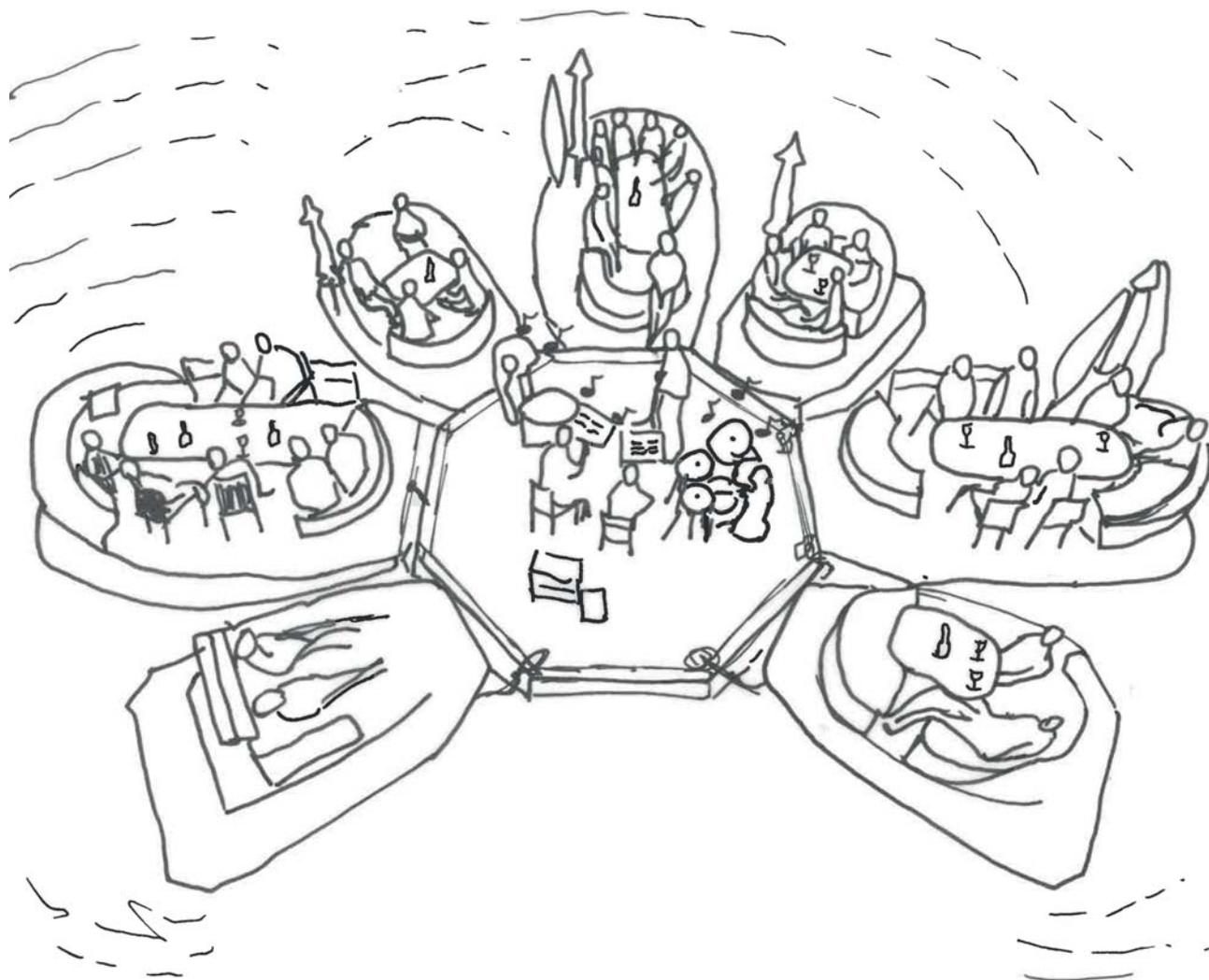


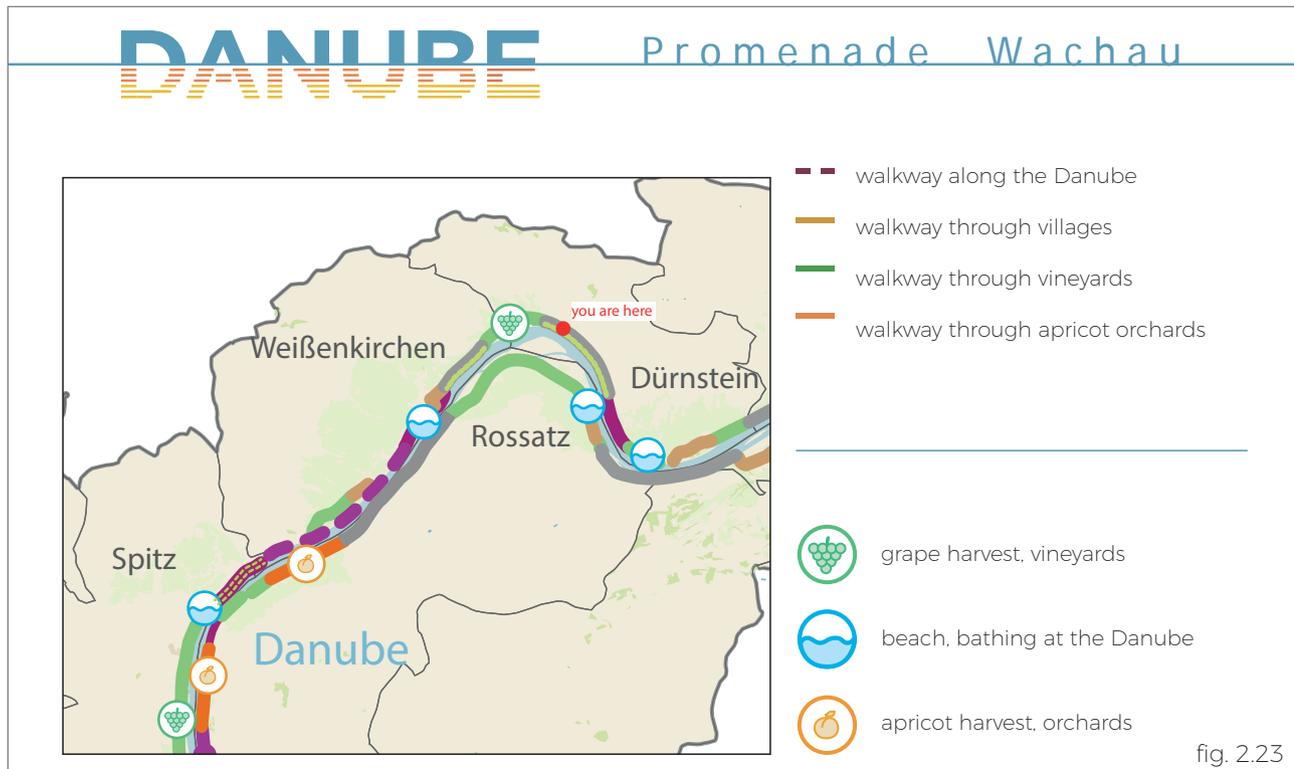
fig. 2.22 - concert on the swimming islands at the Old Danube in Vienna

2.2 Dandering along the Danube

2.2.5 Guidance system

For better information, a guidance system should be installed at the promenade to guide along the Danube and into villages. Therefore, an overview map shows a section of the promenade, to help with the orientation in this area. To provide an overview about the oncoming activities at the route, a 2-board-system can be installed along

the Danube. On one hand, information about the direction, for example from Krems to Melk, and the length of the route is shown on a board. On the other hand information about following activity or resting places, like harvest or bathing places, which are not only interesting for tourists but also for local people is visible.



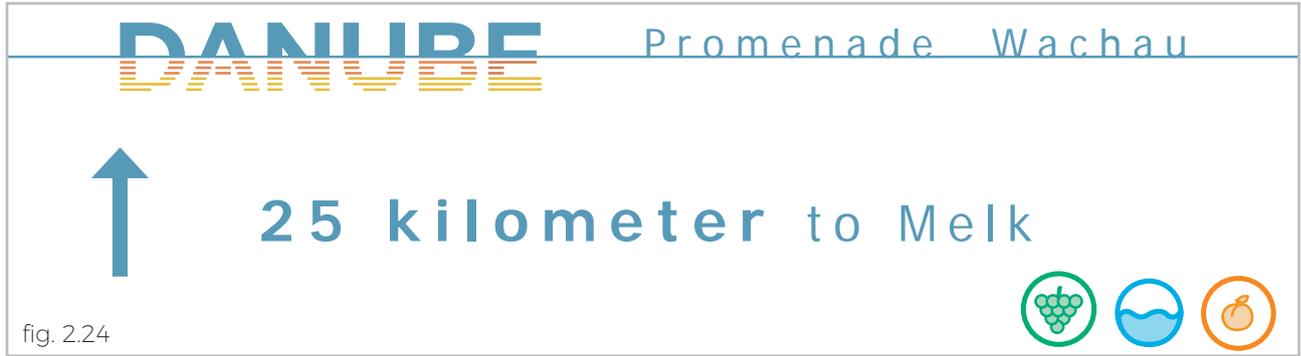


fig. 2.23 - overview map, own edit
 fig. 2.24 - guidance system - information about direction, own edit
 fig. 2.25-2.27 - guidance system - information about activity places (like apricot and grape harvest) and bathing possibilities at the Danube, own edit

Guidance system

Goals

establish a connection through the whole region and its inhabitants

Stakeholders

municipalities, federal state government, locals, tourists, Danube Lower Austria tourism GmbH (regional bureau Wachau Nibelungengau)

Instruments

finance investments, building plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2 Dandering along the Danube



2.2.6 Vertical access to the villages (example Weißenkirchen)

Another important point is the vertical access from villages to the Danube riverbank. Therefore, the guidance system should be implemented in villages to lead people (tourists and locals) to the Danube. Another idea are markings on the ground with a symbol like a wave and an arrow to show the direction to the Danube. Because of the dangerous situation, that the federal highway is between the villages and the Danube riverbank, more crossings with traffic lights make the access more safe. A bridge for pedestrians over the federal highway is more expensive than crossings, but it's the safest solution. The bridge can be colored as a wave, that suggest the Danube river, for example. For the design of these bridges, a participation process can be implemented.



fig. 2.30

fig. 2. 28 - vertical access to the Danube, Weißenkirchen,
basemap: Open Street Map
fig. 2.29 - guidance system to the Danube
fig. 2.30 - entrance to Weißenkirchen

Vertical access to the villages

Goals

develop the promenade in a vertical way, provide an access between the villages and the Danube

Stakeholders

municipalities, federal state government, locals

Instruments

finance investments, sponsorships, change in land use plan, building plan, participation process

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2.7 Sight lines to points-of-interests

This project is about assuring sight lines to important buildings, for example the ruin Aggstein, abbey Dürnstein and others. In this way, the old tradition and building culture should become the focus of attention of tourists as well as local people. This can be reached by information tables about the buildings along the promenade. Information tables can be installed at special places, where sight lines to points-of-interest (churches, ruins, monasteries) exist. On these boards, information about the tourist attraction can be offered (like information about the history, open hours of the attraction and the access route).

On the other hand, places with a good sight to touristic attractions can be furnished with sitting accommodations and telescopes, to offer people

a place to stay and a view to these attractions and the landscape as you can see in fig. 2.25. The design of the platforms can be based on natural materials or also based on the landscape like dry stone terraces. The platforms can also be implemented in the flood protection system and can be used as sitting accommodations as well.

fig. 2.31 - view from „Ferdinandswarte“, Bergern
fig. 2.32 - look-out Pyramidenkogel, Wörthersee, Carinthia



fig. 2.31



fig. 2.23

Sight lines to points-of-interests

Goals

set a focus on the old tradition and building culture, include a variety of elements (cultural landscape)

Stakeholders

municipalities, federal state government, locals, Danube Lower Austria tourism GmbH (regional bureau Wachau Nibelungengau)

Instruments

finance investments, sponsorships, building plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2.8 Ecological lighting concept

To establish a resource-conserving and at the same time aesthetic handling of light in the region Wachau, the artist project Slow Light by Siegrund Appelt can be seen as an example.

This concept is based on the philosophy of energy efficiency, sustainability and environmentally friendly use of light. The concept takes for example nature conservation criteria and the sensitive handling of light, according to specific conditions on the ground into account. Under the slogan "less energy, more quality", the Wachau has set 15 lights in scene, including unconventional locations. One focus of this artist project is the presentation of religious places. Energy savings of up to 90% compared to the previous lighting were achieved (acc. to langsameslicht.com, 2017). The Slow Light concept should be included in new promenade sections to ensure a sustainable use of energy in this sector and to

make the landscape appear in natural light and to emphasize certain point-of-interests.

Ecological lighting concept

Goals

establish a sustainable lighting concept along the promenade in the whole region, sensitive handling with light in a nature conservation area

Stakeholders

municipalities, federal state government, locals, artists, light engineers, investors

Instruments

finance investments, change in building plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2.9 Flood protection design guideline

In the region Wachau, the topic about flood protection has an important part. Due to the risk of floods, it is necessary to build enough flood protection near the Danube. In some parts, this has already been implemented in the region. In Krems, the flood protection is reminiscent of the dry stone walls, which are used in vineyards. In Spitz/Donau, concrete walls have been chosen, which can be supplemented by mobile walls in case of floods. Thus, the view of the landscape is not affected by the flood protection. These concrete walls are equipped with curved elements and supplemented with flower beds to make them more attractive. These elements can also be used as sitting accommodations, which makes them multifunctional. In Rossatz-Arnsdorf, the design was carried out with steel structures, which are filled with stones. These can be used as sitting

accommodations too. For future flood protection projects/plans a manual for the region should be drawn up. This manual contains criteria and guidelines for flood protection. Not only the technical facts but also the design of the flood protection will be discussed. The design foci are on the adaptation to the landscape and the integration of regional elements like dry stone walls. The manual will be created in collaboration with national experts and stakeholders, such as viadonau GmbH, the waterway manager of the Austrian part of the Danube and the DHK (Donauhochwasserschutz-Konkurrenz, Danube flood protection organisation).

fig. 2.33 - flood protection system in Krems/Donau
fig. 2.34 - flood protection system in Rossatz/Arnsdorf



fig. 2.33



fig. 2.34

2.2 Dandering along the Danube



fig. 2.35



fig. 2.36

fig. 2.35 - flood protection system at the promenade in Krems

fig. 2.36 - flood protection system in Spitz/Donau

Flood protection design guideline

Goals

prevent floods and simultaneously including elements of the (cultural) landscape

Stakeholders

municipalities, federal state government, architects, artists, locals, building engineers, investors

Instruments

finance investments, change in land use plan and building plan,

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.2.10 Design of new promenade – surface design

Beside routes rich in variety, another important goal is to provide different designs of walkways. In addition to activities and resting places, the walkways themselves can also be a unique experience. In order to ensure accessibility, the main part of the promenade is asphalted. In addition there may also be alternative routes leading through the forest, which are natural. These can also be extended to barefoot trails.

A path consists alternately of natural products like gravel, sand, wood and stone. This is an experience not only for hikers, but also for children. Furthermore, newly created promenades, which lead along the Danube, can be specially designed. Instead of asphalt, a wooden floor could be laid out to create an urban-maritime atmosphere as in the city harbour of Senftenberg. This project can be developed in the course of a participation process with the citizens of the region.

Therefore the ideas of the citizens on how the promenade design might look, flow into the process and can also be realized together with the citizens. For example, a school class might be involved in the „barefoot“ project. A cooperation with the local construction companies could also be negotiated. The project can be financed through the state government of Lower Austria.



fig. 2.37

Design of new promenade – surface design

Goals

establish new promenade routes rich in variety, different design of walkways

Stakeholders

municipalities, federal state government, architects, pupils, locals, building engineers, investors

Instruments

finance investments, sponsorships, cooperations, change in land use plan and building plan, participation process, idea contest

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.3

Exploring around the Danube

2.3.1 ELMO Wachau

The second project of Danube Rivering is focused on tourism. In the Wachau valley tourism plays a major role due to the uniqueness of the valley and its cultural landscape. During the high season a lot of people stream in the region. Mostly this happens by car. So there is a high volume of traffic during the high season. The tourism in the Wachau valley tends to mass tourism. This can cause severe problems to the natural conditions and also to the local inhabitants. To preserve the region from this development, soft tourism should be established.

The first steps concern the topic mobility for tourists. An ecological system should be developed to minimise the high volume of traffic during the high season and the traffic jams during the apricot blossoming. The next step is to keep the tourists longer in the region than just one or two days. To implement longer overnight stays in the region, projects with local farmers and winegrowers are considered.

To strengthen the region as one, an overall marketing strategy should be developed and theme based events all over the Wachau are created. The competition of the municipalities should be tempered and cooperations should be strengthened to preserve the whole region as it is now.

The region of the Wachau valley attracts a lot of tourists during spring, summer and autumn. Most of the tourists are day tourists or stay for a weekend. About 30% of the tourists stay for one day, the other 70% stay overnight. The average stay in the Wachau is two days. In the year 2016 about 810.000 overnight stays were registered in the Wachau-Nibelungengau-Kremstal. (acc. to Donau.com, 2017) The result is an increased volume of traffic during the high season. To minimise the amount of cars in the region, a traffic system for tourists, so called ELMO Wachau, which stands for electric mobility, should be established.

First of all the arrival of the tourists should be in an ecological way. There are two railway stations in the Wachau, Krems and Melk, from both cities you have a connection to Vienna, St. Pölten and other smaller towns in Lower Austria. So an arrival by train would be possible.

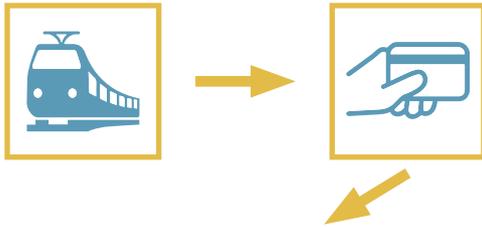
After the journey to the Wachau, tourists get the ELMO Wachau card, which can be used for all different kinds of mobility in the region. Tourists who arrive by a private car have to park the car in a predetermined place and give away their keys in order to use the ELMO Wachau card. The role model for this system is the municipality of Werfenweng in the federal state of Salzburg, where this soft mobility system is already developed and accepted.

With the mobility card a lot of different services can be used:

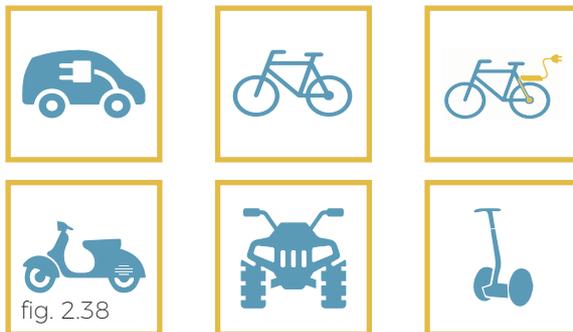
- dial-a-ride transit
- e-cars
- e-bikes
- bikes
- fun mobility

Come to the Wachau by train or leave your car in the parking lot.

Get the ELMO Card in each municipality.



Use a lot of different types of mobility.



With this system mobility can be guaranteed in an ecological way. During the high season traffic jams can be prevented.

E-cars

In each municipality there are at least two e-cars available for rent. The number on e-cars depends on the number of inhabitants of the municipality and also on the number of tourist arrivals.

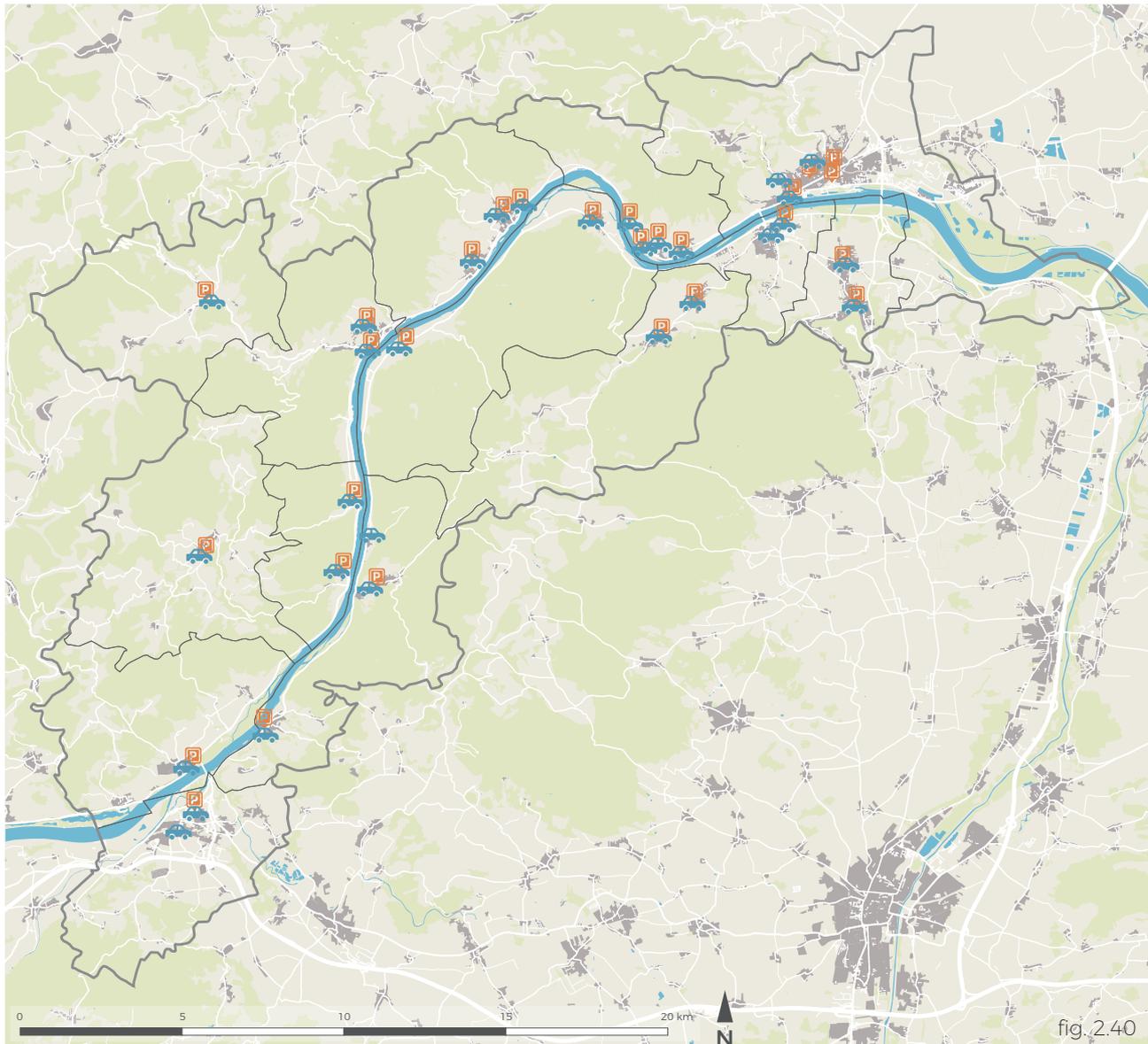
Municipalities	Inhabitants	Arrivals	E-cars
Aggsbach Markt	660	4.999	2
Bergern	1.217	-	2
Dürnstein	869	25.970	5
Emmersdorf	1.753	22.093	5
Krems	24.342	124.518	10
Maria Laach	932	978	2
Mautern	3.588	7.085	3
Melk	5.308	40.276	7
Mühldorf	1.386	-	2
Rossatz-Arnsdorf	1.058	14.753	5
Schönbühel-A.	989	12.579	5
Spitz	1.615	31.943	5
Weißkirchen	1.474	23.737	5
Furth	2.992	11.657	5
sum			63

fig. 2.39

fig. 2.38 - ELMO mobility system

fig. 2.39 - E-cars in the Wachau, Statistik Austria

2.3 Exploring around the Danube



The sum above is just a proposal. If it is necessary, the number of e-cars can be easily increased or decreased, it depends on the demand. The e-cars will be available at every municipal office in the region.

An e-car system exists already in the region Wachau. E-car sharing was established in the city of Krems in the year 2016. It is hosted by an association and the binding is meant to be over a longer time. In order to guarantee the soft mobility system for tourists, each municipality should buy e-cars to provide them to the tourists. The number of cars can vary from municipality to municipality in regard with the number of tourist overnight stays.

Parking lots in the region

In the map (fig.2.46) you can see the parking lots, where the e-cars can be picked up and where they can be returned. Additionally, there are also parking lots for private cars. In the map there are the official parking lots marked. Of course there can be additional private parking lots at hotels, other accommodations or restaurants.



ELMO car collection station



parking of the ELMO car
or the private car

fig. 2.40 - parking lots in the region

fig. 2.41 - number of bikes and e-bikes, Nextbike

Bikes

In the Wachau region a bike rental system exists already, it is called „Nikebike“. This system should be extended and upgraded. At each station there are about six bikes at maximum for rent. During high season a lot of tourists are exploring the Wachau region by bike. So the number of bikes should be increased.

Municipalities	Existing stations	New stations	Sum	E-bikes
Aggsbach Markt	1	1	2	3
Bergern	0	1	1	10
Dürnstein	3	1	4	3
Emmersdorf	2	2	4	3
Krems	6	4	10	15
Maria Laach	0	1	1	10
Mautern	1	1	2	3
Melk	6	1	7	8
Mühldorf	1	0	1	10
Rossatz-Arnsdorf	3	0	3	3
Schönbühel-A.	1	2	3	3
Spitz	2	3	5	5
Weißkirchen	2	2	4	5
Furth	0	3	3	3
sum	28		50	84

fig. 2.41

2.3 Exploring around the Danube

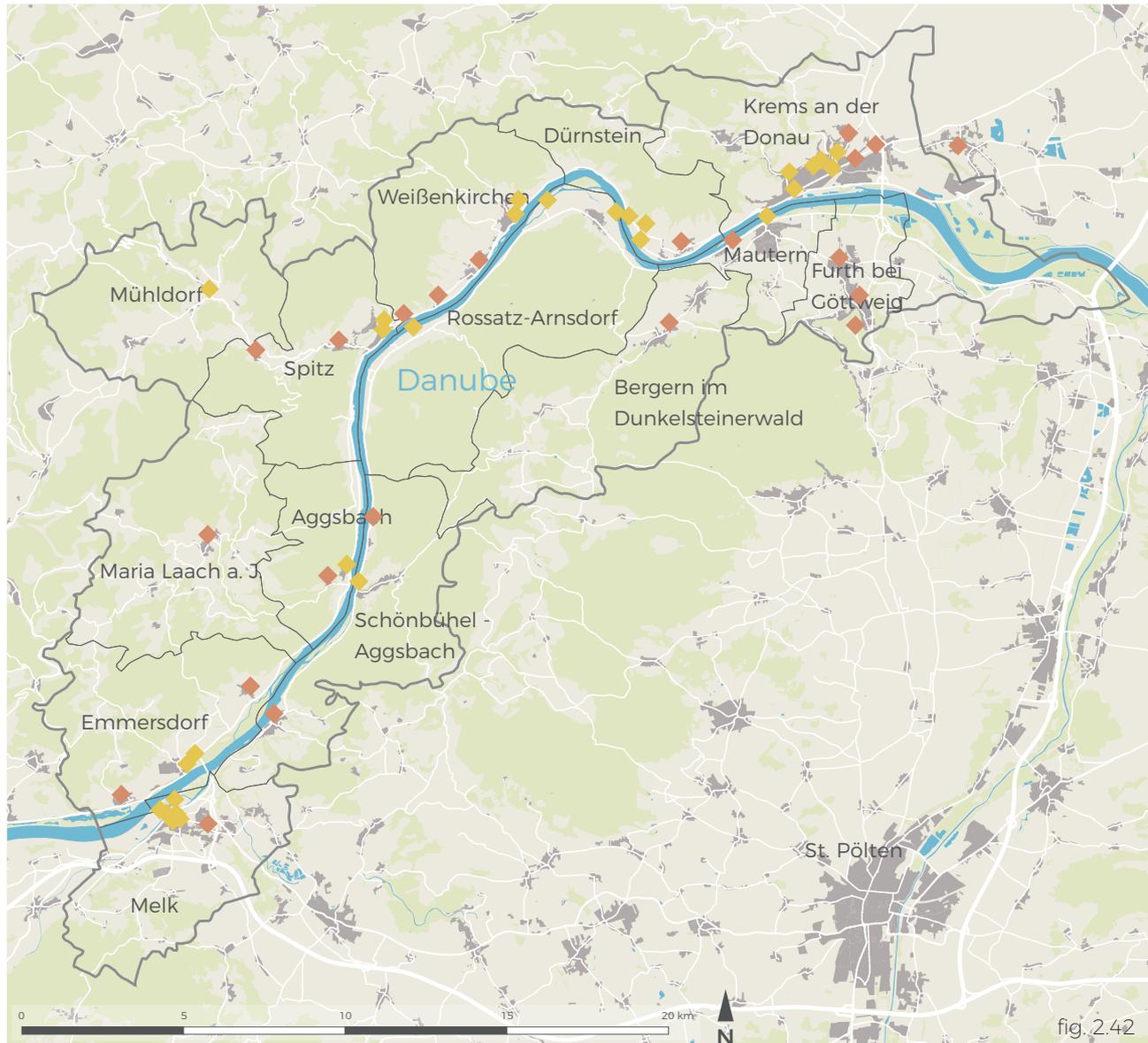


fig. 2.42

Nextbike stations

-  existing stations
-  new stations

The existing Nextbike stations are complemented with new stations at important points-of-interest, such as train stations, sights and leisure areas.

The number of the new Nextbike stations is also just a proposal, it can be increased or decreased if it is necessary. After the installation of new Nextbike stations, there will be around 300 bikes to rent in the whole region.

E-bikes

The municipalities should also offer e-bikes for the elder generations. In the table above there is a suggestion how much e-bikes each municipality should provide. This number depends on the number of inhabitants, on the number of tourist arrivals but also on the altitude change of the municipality area.

Dail-a-ride transit

This type of mobility is mainly organized for the locals, but it also can be used by tourists. At the moment a dial-a-ride transit exists only in the city of Krems, but it should be expanded to the whole region. More information on this dial-a-ride transit is given in the chapter about the locals (see chapter „2.4.4 Dial-a-ride transit“).

Fun mobility

Additionally to the “normal ways” of transportation, fun mobility can also be used with the ELMO card. Some examples are motorcycles, scooters, quad bikes and segways. These types of transportation are also electrically powered.

Pricing

Tourists can use the ELMO Wachau card after they come to the region by train or they leave their car in a parking lot. The card can be obtained in every municipal office, at tourist offices or at cooperating partners such as hotels and restaurants. The nominal charge for the card is ten Euros a week. After this charge is paid, no extra money for lending a vehicle is demanded.

Tourists without the ELMO Wachau card can also use the offering of vehicles, but without the card a fee has to be paid per hour. This fee varies from vehicle to vehicle and also has to be paid at municipal offices, tourist offices or cooperating partners.

Information concerning the ELMO Wachau mobility system can be found on the newly created Wachau webpage or on a new app. There you also can book a vehicle beforehand or outside business hours from municipal offices or tourist offices.

fig. 2.42 - Nextbike stations, nextbike

2.3 Exploring around the Danube

For people without any mobile devices or internet access, there should be a phone number, which is always available even outside business hours to book a vehicle.

The ELMO Wachau mobility system has the highest priority in the focus of tourism, because it will bring less traffic and less pollution to the region. Furthermore with the implementation of this system, the region Wachau will be more bike and pedestrian friendly. The investment costs as well as the running costs are very high in comparison to the other projects, because all the different vehicles have to be acquired and maintained. The potential of participation is low. The stakeholders mainly are the municipalities, associations in the region and the federal state of Lower Austria, which should provide sponsorships to support the mobility system.

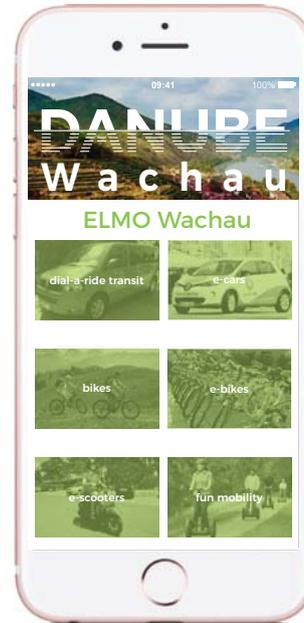


fig. 2.43

ELMO Wachau

Goals

less traffic in the region, less pollution, making the region bike and pedestrian friendly

Stakeholders

associations, municipalities, federal state government, planners, tourist associations

Instruments

finance investments, creating a new association concerning mobility, sponsorships

Priority



Timescale



Investment costs



Running costs



Potential of participation



fig. 2.43 - ELMO Wachau app, own edit

2.3.2 Back to the roots tourism

One of the most important commercial sectors in the Wachau valley is the tourism sector. Every year more and more people visit the region, which is positive for the economy on the one hand but can destroy the nature and the natural habitat on the other hand. In order to maintain the important sector of tourism, soft tourism should be implemented, strengthened and established in a sustainable way. This means that the tourism is not about just visiting the region, but to contribute to the development of the region. The main goals of soft tourism are of course the sustainable way of tourism but also to keep the tourists in the region for a longer time. There are many ways of establishing soft tourism:

Farm holidays

Farm holidays are especially interesting for people from the city and people with children. You can experience the whole effort farmers have to perform. Tourists help working on the farm, with the crops, the animals, the vineyards and also the apricot orchards. This is another way of escaping the normal working life, of winding down and of relaxing. In order to implement this project, a guideline for interested farmers should be created. Farmers can participate in this project by registering to the Wachau Marketing and offer their farm for holidays to interested people.

Farm holidays

Goals

tourists should stay longer than just one or two days in the region, tourists get to know the region and contribute to the local development

Stakeholders

municipalities, local farmers and winegrowers, tourist associations, contact persons for farmers

Instruments

creation of guidelines for farmers, creation of incentives, sponsorships

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.3 Exploring around the Danube

Rent a Rebstock

Tourists which have ever wanted to produce their own wine can come to the region and participate in "Rent a Rebstock". This is the perfect opportunity for them. They can rent some grapevines from a winegrower in the region Wachau and come and help with the process of winemaking. In the end they get their own bottles of self-produced wine. With such projects tourists which are mostly interested in the wine of the Wachau come more often to the region and stay overnight to help the winegrowers. They live on the farm and support in the process of winemaking.

This project is also implemented by creating a guideline for winegrowers on how to sell this type of holiday to the tourists. The priority, the investment costs as well as the running costs are very low in comparison to other projects.

Whereat the potential of participation is higher. The guideline is developed with local winegrowers and winerys as well as tourist offices and the municipalities.



fig. 2.44

fig. 2.44 - vintage, example Kamptal. Langenlois

Rent a Rebstock

Goals

tourists should stay longer than just one or two days in the region, tourists get to know the region and contribute to the local development

Stakeholders

municipalities, local winegrowers and winerys, tourist associations, wine store

Instruments

creation of guidelines for winegrowers, creation of incentives, sponsorships

Priority



Timescale



Investment costs



Running costs



Potential of participation



Picnic basket for day tourists

Despite the measures to keep the tourists for a longer time in the region, day tourism is still a topic in the Wachau. In order to let the tourists experience the local food traditions, picnic baskets with regional food should be provided. It is important that also day tourists get an idea of the regional products instead of bringing food on their own. This offer can be combined with the new founded Slow Food region Wachau (see next page), which can manage the compliance of the picnic basket and the sale to the tourists.

Of course this offer is not limited to day tourists, all tourists can enjoy local food in the vineyards and the pictorial landscape of the Wachau valley.

The priority, costs and potential of participation are very similar to the other projects of the back to the roots tourism.

Picnic Basket for day tourists

Goals

possibility for day tourists to experience the food traditions and the culture of living of the region

Stakeholders

municipalities, local winegrowers, farmers and producers, tourist associations, Slow Food region Wachau

Instruments

creation of a guideline, marketing, sponsorships

Priority



Timescale



Investment costs



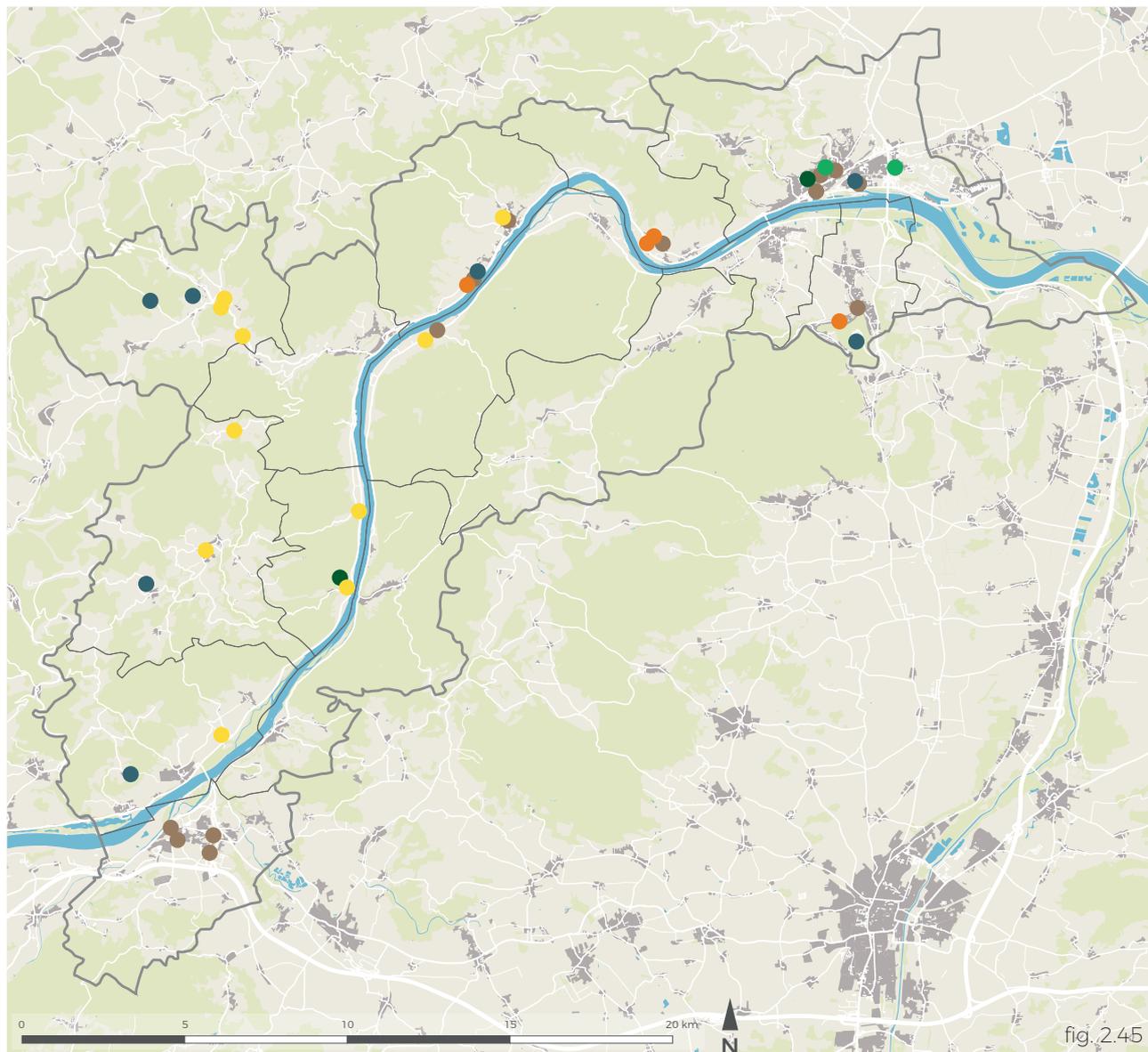
Running costs



Potential of participation



2.3 Exploring around the Danube



Slow Food region Wachau

In order to maintain the regional culture of living and the wine culture, a Slow Food region should be founded. Slow Food is an international organisation which was founded in Italy. It is the countermovement to fast food, and supports conscious and regional food. Regional traditions and local herbal and animal products should be promoted. The mantra of the Slow Food association is “Buono, pulito e giusto”, what means good, clean and fair. If one of these elements is missing, it is not Slow Food. (acc. to

- bakery
- apricots
- local products
- tea, herbs, spices
- liquer destilleries
- others

Slow Food, 2017)

In the Wachau valley a lot of traditional farmers, winegrowers and producers are located. A Slow Food region connects them all through an association. With this association and the label of Slow Food, the regional farmers and producers get a new marketing strategy and the goal is to sell their products in local supermarkets.

In addition to the farmers and winegrowers in the region, there are a lot of local producers, which can participate in the Slow Food association as you can see in the map on the previous page. In the map, producers are divided in bakerys, products made out of apricots, liquer destilleries, tea, herbs and spices, local products such as fruits, juices, meat, cheese and fish from the region and others, for example stores which sell local barbecue accessories.

fig. 2.45 - Slow Food region map

Slow Food region Wachau

Goals

tourists should stay longer than just one or two days in the region, tourists get to know the region and contribute to the local development

Stakeholders

municipalities, local winegrowers and wineries, tourist associations, wine store

Instruments

creation of guidelines for winegrowers, creation of incentives, sponsorships

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.3.3 Theme based events

In the Wachau region there are several events the whole year around. Every municipality has its own festivities of the sport clubs and also of the fire brigade.

The first measure is to make an event calendar with all those events combined to create an overview. The other important measure is to establish some festivities which take place in the whole region to strengthen the cooperation between the municipalities. There are three different events planned in spring, summer and autumn. The Wintertime should be a recovery time not only for the nature, but also for the locals.

Medieval festival

In spring there is a medieval festival. This theme is perfect for the region Wachau, because there are a lot of buildings from past times. There are the Melk Abbey, the ruin Aggstein, the ruin Hinterhaus, the castle Oberranna, the monastery Schönbühel, the ruin Dürnstein, the Gozzoburg Krems and the Göttweig Abbey. At the ruin of Aggstein there is already a medieval festival taking place. It gives an example how the festival can work in the whole region. The locations should give an impression of the life in the medieval. Possible attractions can be a market with medieval products, musicians, food stalls and activities such as archery and medieval games.

The following pictures show some possible scenes of the medieval festival.



fig. 2.46 - Melk Abbey, Wikipedia

fig. 2.47 - ruin Hinterhaus

fig. 2.48 - monastery Schönbühel

fig. 2.49 - ruin Dürnstein



fig. 2.49

Sports festival

In the hottest season of summer a festival for popular and new sports should take place. Different sport clubs can offer a various programme for young and old people to get active. Popular sports like football, tennis and volleyball can be played but also new sports can be tried, for example Stand Up Paddeling, bouldering, canoeing, slack lining or parkour. The festival should take place at sport clubs in the region, places along the Danube and in the villages.

Slow Food festival

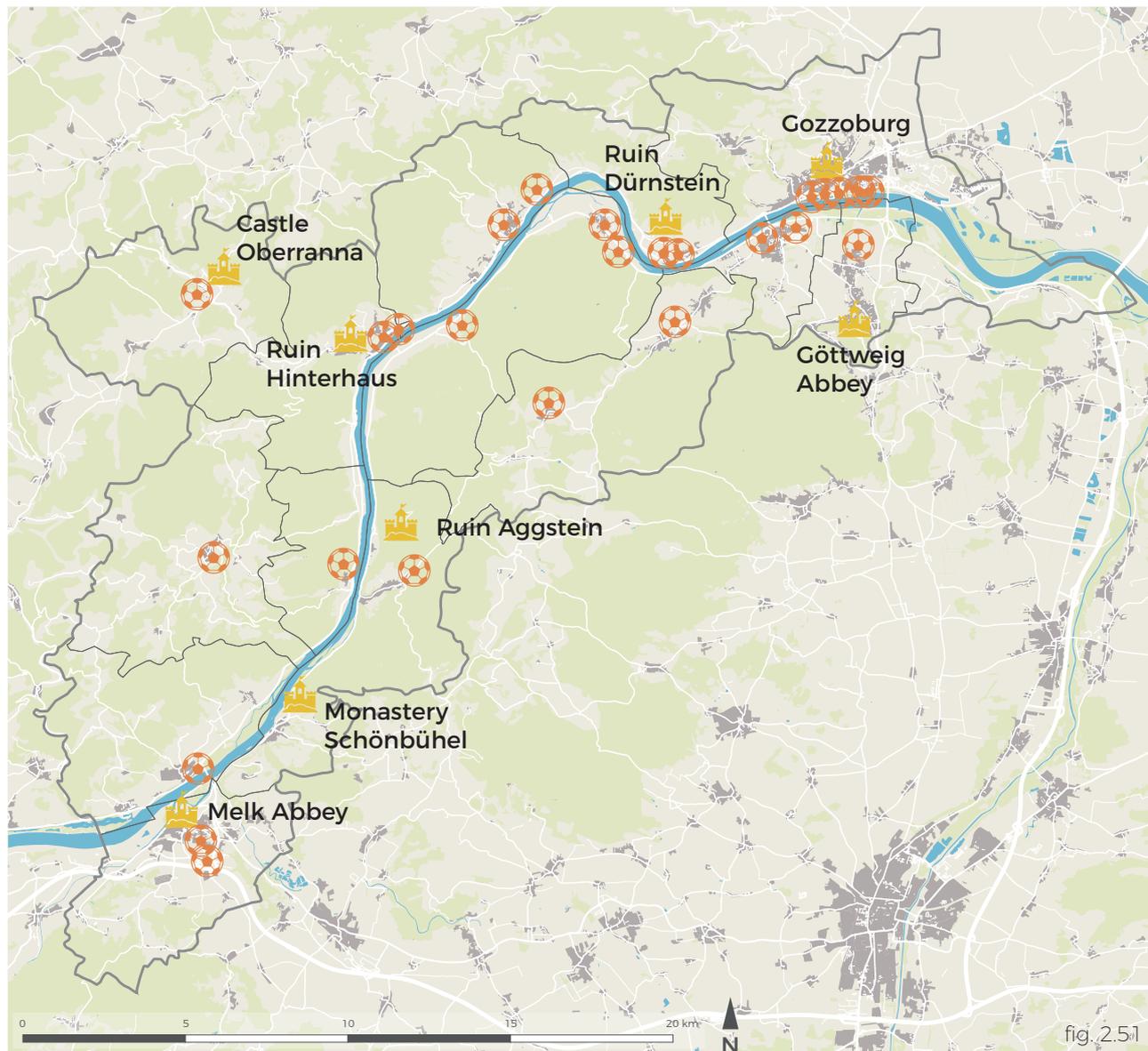
The foundation of the Slow Food region Wachau leads to a theme based event in autumn, the Slow Food festival. This festival should also take place in the whole region and represents the typical food of the region. The festival not just about eating but also about the producing traditions in the region. Therefore the participants of the Slow Food region open their doors and interested parties can explore how regional products are made. Another important part are clubs and museums in the region, whose goal is to maintain the culture of living of the Wachau.

fig. 2.50



fig. 2.50 - Slow Food logo

2.3 Exploring around the Danube



Venues of theme based events

The venues for these events are spread through the whole region. Each municipality should participate. The venues for the medieval festival are in the whole region: in the municipality of Melk, Schönbühel-Aggsbach, Spitz an der Donau, Mühldorf, Dürnstein, Krems an der Donau, Furth bei Göttweig.

The sports festival is taking place at public places in the villages, along the Danube, at grounds of sport clubs and in open air swimming pools.



medieval places



sports venues

Therefore the municipalities and the sports clubs play an important role in organizing this festival. Incentives should be created for those clubs, such as earnings and a bigger range of influence.

All three events in spring, summer and autumn should be for tourists and also for the inhabitants of the region. To guarantee safe transportation without traffic jams, hop on hop off buses are installed for the duration of the event (see chapter „2.4.5. Hop-on-hop-off bus at events“).

The theme based events are higher in priority than the back to the roots tourism. It is about creating a connection through the whole region. Therefore a guideline is made and incentives have to be created.

fig. 2.51 - theme events in the Wachau, own edit

Theme based events

Goals

to create a stronger cooperation between the municipalities, to lower competition, creation of interesting places for tourists

Stakeholders

municipalities, inhabitants, tourists associations, clubs in the region

Instruments

creation of a guideline, creation of incentives, sponsorships

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.3 Exploring around the Danube

For a better orientation, an event calendar for the whole region should be created. It strengthens the cooperation between the municipalities and shows the diversity of events in the region.

On the next two pages an example how the event calendar should look like is made:

June 2017

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1. Dämmerchoppen Spitz an der Donau	2. Love Knows No Ending Melk	3. Schaugartentage Rossatz-Arnsdorf Sommernachtskonzert Mautern/Donau Concerto Amoruso Melk	4. Whit Sunday Schaugartentage Rossatz-Arnsdorf Tag der Blasmusik Rossatz-Arnsdorf
5. Whit Monday Schaugartentage Rossatz-Arnsdorf Sportlerfest Spitz/Donau	6.	7.	8. Nacht des Kremser Wein Krems/Donau	9. Feuerwehrfest Weißkirchen Lange Nacht der Kirchen whole Wachau Benefizkonzert Melk	10. Feuerwehrfest Weißkirchen Konzert Trachtenkapelle Spitz/Donau einBlick und ausBlick Mühldorf	11. Feuerwehrfest Weißkirchen
12.	13.	14.	15. Feast of Corpus Christi	16. Fackelwanderung Spitz/Donau Bartholomäusnacht Melk	17. Sonnwende Emmersdorf/Donau Sommernachtsfest Krems/Donau	18. Sonnwende Emmersdorf/Donau Bergturnfest Spitz/Donau
19.	20. Jugend im Park Krems/Donau	21.	22.	23. Sportfest SV Hollenburg Krems/Donau	24. Sportfest SV Hollenburg Krems/Donau Weinerlebnis Loibenberg Dürnstein Sonnwendfeier Wachau whole Wachau	25. Sportfest SV Hollenburg Krems/Donau Feuerwehrfest Mautern/Donau Liederabend Weißkirchen
26.	27.	28.	29.	30.		

fig. 2.52

fig. 2.52 - event calendar June, Donau.com

July 2017

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1. Lichterschwemme Dürnstein Platzfest Rührsdorf Rossatz-Arnsdorf Tag der Blasmusik Schönbühel-Aggsbach	2. Kirtag Maria Laach/Jauerling Sommerkonzert Kapelle Dürnstein Musikermesse Rossatz-Arnsdorf
3. Stift Besichtigung Dürnstein Jauerlinger Gipfelrunde Maria Laach/Jauerling	4. Alles Marille Krems/Donau Eröffnung Kunsthalle Krems/Donau	5. ÖBB Pool Tour Krems/Donau	6. Birdland Melk Dämmererschoppen Spitz/Donau	7. Sommerkonzert Krems/Donau Wachauer Kirtag Weißkirchen Feuerwehrfest Rossatz-Arnsdorf	8. Wachauer Kirtag Weißkirchen Feuerwehrfest Rossatz-Arnsdorf Bründlfest Spitz/Donau	9. Wachauer Kirtag Weißkirchen Feuerwehrfest Rossatz-Arnsdorf Gesundheitsvortrag Mautern/Donau
10.	11.	12.	13. Birdland Melk Konzert Brass Ensemble Melk	14 Clatt&Verkehrt Konzert Spitz/Donau Italienischer Markt Krems/Donau Nachtwächterführung Krems/Donau	15. Wein.Rieden.Wanderung Dürnstein Wachauer Radtage Mautern/Donau Kirche, Adel & Politik Melk	16. Wachauer Radtage Mautern/Donau Museumssonntag Mautern/Donau
17.	18.	19.	20. Marillenkirtag Spitz/Donau Summer in the City Krems	21. Marillenkirtag Spitz/Donau Wachaufestspiele Weißkirchen	22. Marillenkirtag Spitz/Donau Konzert Vokalwoche Melk	23. Marillenkirtag Spitz/Donau Raiffeisen Pool Games Krems/Donau
24. Kreativwoche für Kinder Melk	25.	26.	27. Musikantenstammtisch Maria Laach/Jauerling Bienenkunde Dürnstein	28. Sommerfest Ruder Club Krems/Donau Theateraufführung Krems/Donau Kirchen im Abendlicht Mautern/Donau	29. Sommerfest Ruder Club Krems/Donau Theateraufführung Krems/Donau Dämmererschoppen Rossatz-Arnsdorf	30. Theateraufführung Krems/Donau Krems Triathlon Krems/Donau Nächtliches Konzert Melk
31. Kreativwoche Donauuni Krems/Donau						

fig. 2.53

fig. 2.53 - event calendar July, Donau.com

2.3.4 Marketing strategy

The development of an overall marketing strategy is important to strengthen the cooperation between the municipalities and to temper the competition between them.

The first step of creating a marketing strategy for the whole region is the creation of a new association. This association should manage everything concerning marketing and the representation of the region.

The next step is the implementation of a new website. This new website should unite all municipalities and give the most important information to tourists.

The webpage is separated in the sections "Vacation", "Day trips", "Events" and "ELMO Wachau". It is an easy access to the newly created mobility system and the events.

Marketing strategy

Goals

to create a stronger cooperation between the municipalities, to lower competition, easy and clearly arranged access for tourists

Stakeholders

municipalities, tourists associations, web designers, new association

Instruments

creation of a homepage and a corporate identity, creation of a new association

Priority



Timescale



Investment costs



Running costs



Potential of participation



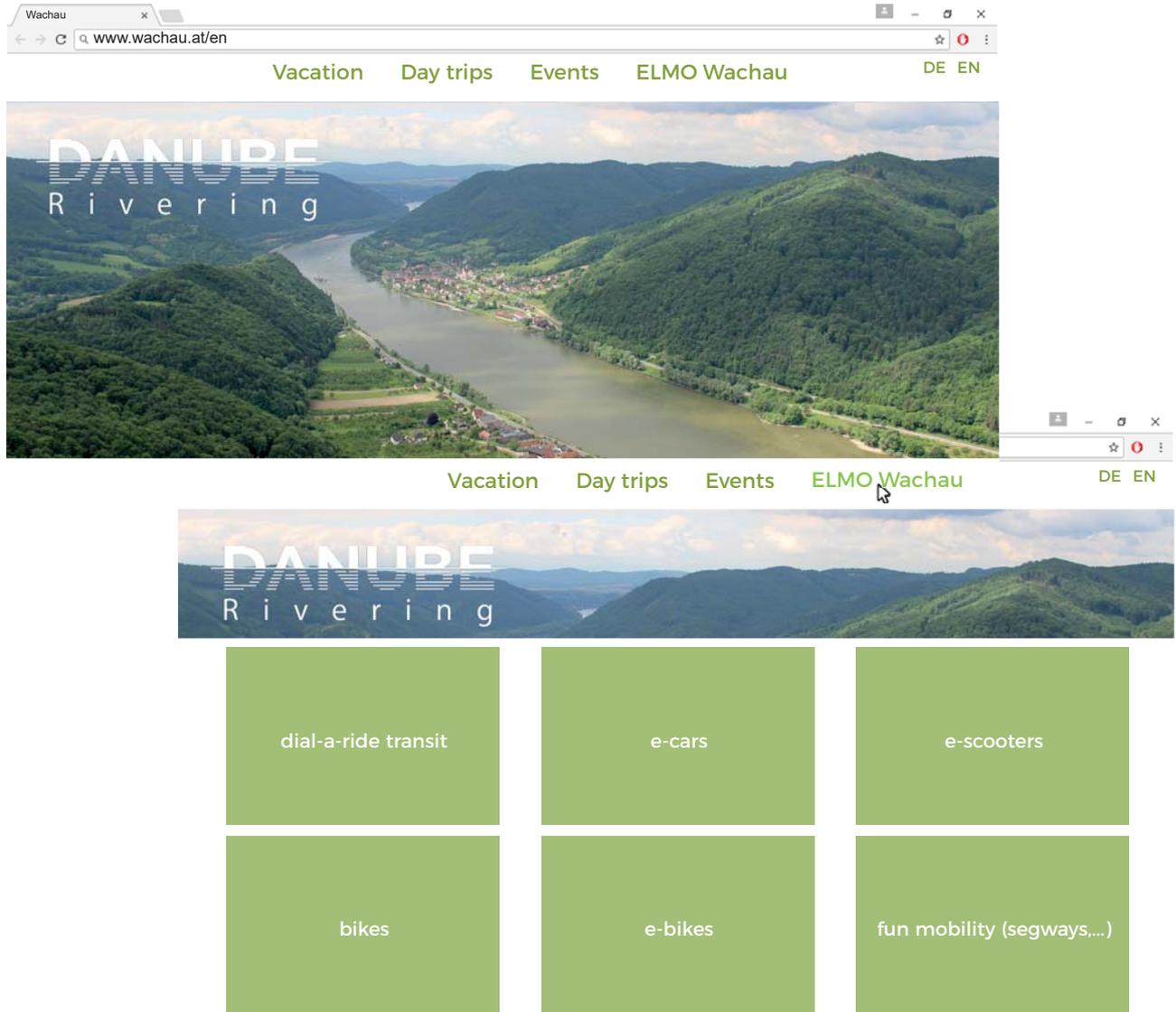
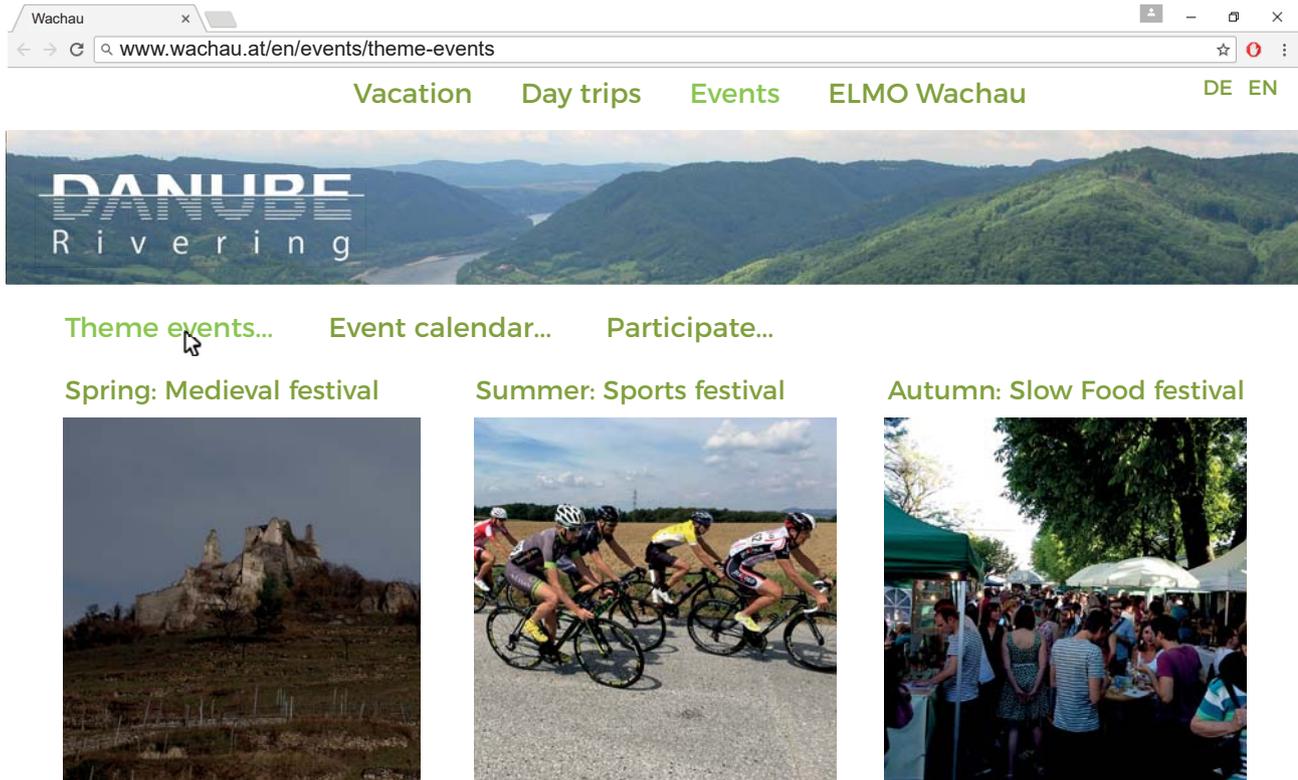


fig. 2.54 - Homepage of the region Wachau (1)

2.3 Exploring around the Danube



Wachau x

www.wachau.at/en/events/theme-events

Vacation Day trips Events ELMO Wachau DE EN

DANUBE
Rivering

Theme events... Event calendar... Participate...

Spring: Medieval festival



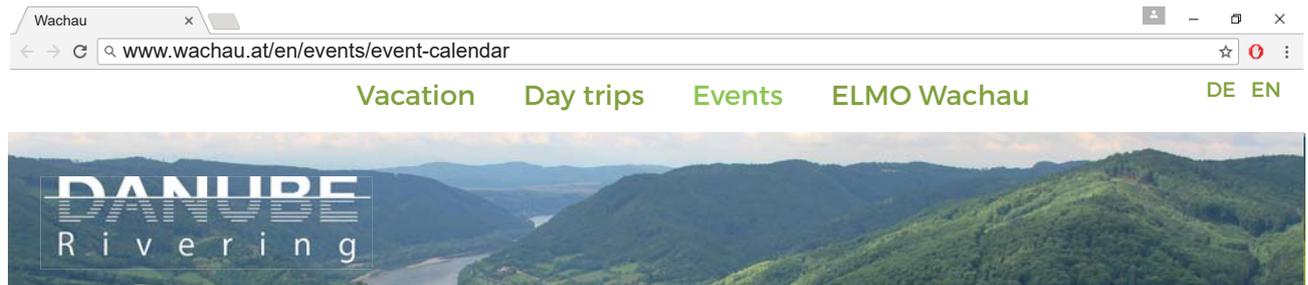
Summer: Sports festival



Autumn: Slow Food festival



fig. 2.55



Theme events... **Event calendar...** Participate...

June 2017						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			1. Dämmerchoppen Spitz an der Donau	2. Love Knows No Ending Melk	3. Schaugartentage Rossatz-Arnsdorf Sommernachtskonzert Mautern/Donau Concerto Amoroso Melk	4. Whit Sunday Schaugartentage Rossatz-Arnsdorf Tag der Blasmusik Rossatz-Arnsdorf
5. Whit Monday Schaugartentage Rossatz-Arnsdorf Sportlerfest Spitz/Donau	6.	7.	8. Nacht des Kremser Wein Krems/Donau	9. Feuerwehrfest Weißkirchen Lange Nacht der Kirchen whole Wachau Benefizkonzert Melk	10. Feuerwehrfest Weißkirchen Konzert Trachtenkapelle Spitz/Donau einBlick und ausBlick Mühdorf	11. Feuerwehrfest Weißkirchen

fig. 2.56

fig. 2.55 - Homepage of the region Wachau (2)
fig. 2.56 - Homepage of the region Wachau (3)

2.4

Living at the Danube

2.4 Living at the Danube

The third part is called „Living at the Danube“ and consists of measures which revive and attract the region for local people. That means the existing structures should be preserved and the measures should build on these existing structures to make the region better. The main problem in this region is the irregular distribution of local supply, which is hardly given in some municipalities, as you can see in the map below. Therefore it is important to ensure the local supply in different varieties.

Another point is that the measures should use the advantages from the region also for the locals and to preserve and to hand the traditions and culture of the region over to the next generation, like the construction of dry stone walls. Another way to keep the traditions is to offer a project day at a winery or apricot farm in the region, where they can explore the working steps in these sections. Local mobility in these region is also an important part of this project, because in the peripheral regions it is not easy move around without cars.

fig. 2.57 - existing local supply in the region, own edit
fig. 2.58 - opening hours from the local supplier, own edit

2.4.1 WaGro - Wachau Grocery

One problem in the region Wachau is the local supply, which is not or hardly exists in some municipalities. For setting measures for expanding the local supply the first necessary step was to collect the existence of the local supplier. The map (fig. 2.71) shows where local supply is existing.

It was important for the next steps to look beyond the borders of the region, but for example in fact of establishing a route for the rolling supermarket only the municipalities in

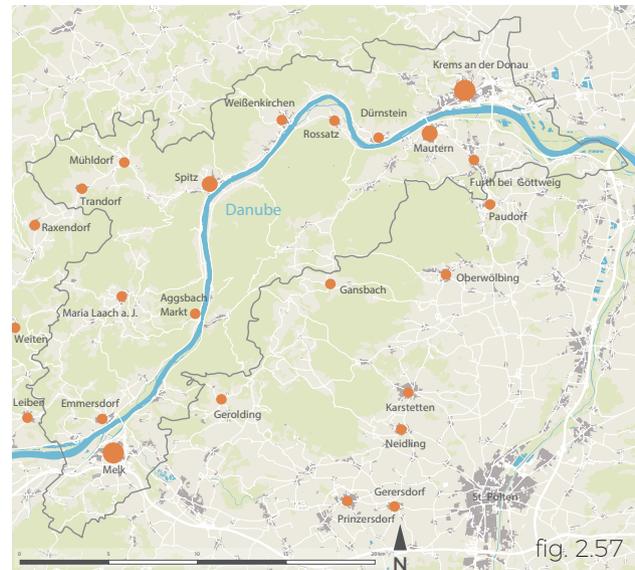


fig. 2.57

the region are considered.

In the bigger municipalities along the Danube like Spitz or Aggsbach Markt are supermarkets and/or bakeries, but in municipalities which are further away from the Danube the local supply is hardly given. Also the opening hours are demand-based, which means that some shops are only open two hours in the morning or in the afternoon, as shown in the table below. For example in Trandorf the shop has opened only in the afternoon from 4 to 6pm and only two days in the morning.

So, this problem has to be solved in expanding the opening hours and to offer possibilities for elder people or people who don't have a car to get an access to local supply. For this the project WaGro - Wachau Grocery was created. This project includes the establishment of a rolling supermarket (with two different routes through the villages and stops in the region), vendors and new village shops with little cafés.

		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
North							
Krems an der Donau	Spar, Hofer, Unimarkt, Billa, Lidl, Penny, Merkur						
Dürnstein	Nah&Frisch	7:30 - 12:00 15:00 - 18:00	7:30 - 12:00				
Weißkirchen	Spar	7:00 - 12:00 14:00 - 19:00	7:00 - 12:00 14:00 - 19:00	7:00 - 12:00 14:00 - 19:00	7:00 - 12:00	7:00 - 12:00 14:00 - 19:00	7:00 - 12:00 14:00 - 17:00
Spitz	Nah&Frisch	7:00 - 18:00	7:00 - 18:00	7:00 - 18:00	7:00 - 18:00	7:00 - 18:00	7:30 - 12:00
	Spar	7:15 - 18:30	7:15 - 18:30	7:15 - 12:00	7:15 - 18:30	7:15 - 18:30	7:15 - 17:00
Mühldorf	ADEG	6:30 - 18:00	6:30 - 18:00	6:30 - 18:00	6:30 - 18:00	6:30 - 18:00	6:30 - 12:00
Trandorf	ADEG	16:00 - 18:00	16:00 - 18:00	16:00 - 18:00	7:30 - 12:00	16:00 - 18:00	7:30 - 12:00
Maria Laach am Jauerling	Nah&Frisch	7:00 - 12:00	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00 15:00 - 17:00	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00
Aggsbach Markt	Nah&Frisch	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00 15:00 - 18:00	7:00 - 12:00
Emmersdorf	Nah&Frisch	7:00 - 12:30 15:00 - 18:00	7:00 - 12:30	7:00 - 12:30	7:00 - 12:30	7:00 - 12:30 15:00 - 18:00	7:00 - 12:30
South							
Mautern	Spar	7:15 - 19:30	7:15 - 19:30	7:15 - 19:30	7:15 - 19:30	7:15 - 19:30	7:15 - 18:00
	Billa	7:15 - 19:30	7:15 - 19:30	7:15 - 19:30	7:15 - 19:30	7:15 - 19:30	7:15 - 18:00
Furth bei Göttweig	ADEG	7:30 - 18:30	7:30 - 18:30	7:30 - 18:30	7:30 - 18:30	7:30 - 19:00	7:30 - 18:00
Melk	Hofer, Merkur, Spar, Billa						

fig. 2.58

2.4 Living at the Danube

For the memorability of the WaGro also a logo is designed. This logo is found on the rolling supermarket, vendors and on the new shops. So the locals and also tourists know that they can find regional products there. The sprinkling spots stand for the different municipalities which are together for one region: Wachau.



fig. 2.59

they have a fixed spot at a fixed time, where the locals can buy the goods, like for example the rolling supermarket in Kirchberg an der Jagst in Germany. (acc. to Schmidts, 2017)

One possibility is also that the locals can order what they need and the bus driver brings the goods to them on the next day or can also hang it on the door, when their house is on the route. An example is the family Enne in Großbebersdorf, Lower Austria, who offers a home delivery from daily-needed products. Therefore, people can order goods by internet or telephone and pay the same prices as in the shops plus a delivery price. (acc. to Rolla, 2017). This would be an advantage or a service, especially for the elder population.

Establishment of a rolling supermarket

For expanding the local supply and the opening hours new village shops and a „rolling supermarket“ should be established, where the local people can find anything they need for the everyday consumption. The plan is that in the village shops and in the rolling supermarkets mainly regional products should be offered.

The rolling supermarket is a bus, which is touring in a defined route through the villages, where



fig. 2.60

fig. 2.59 - logo WaGro - Wachau Grocery, own edit

fig. 2.60 - rendering of a rolling supermarket, own visualization

Establishment of vendors

Another supply possibility is a so called vendor farm shop. In these vendors the merchandisers put their products for sale like eggs, bread, meat, so also consumption goods and people buy these products like they buy drinks or snacks at a vendor. The vendors are going to be located in wooden huts, for example like the farm shop from family Jung in Hessen, Germany. (acc. to Familie Jung, 2017)

An advantage of this selling form is that you don't need any staff. Only in the morning somebody fulfils the vendor, this could be done by the merchandisers themselves, for example the bakery fills the vendor with bread and so on. The vendor is open 24hours every day.

The vendors are mainly located at the new designed places at the promenade or in small municipalities as a possibility for expanding opening hours, so people get more access to daily-needed goods.

Establishment of little cafés

In fact of expanding the local supply also with new village shops, the new and also the existing shops should get places, which have a quality to stay. The shops should be a place where people want to be, take a rest and communicate with each other.

So the shops are combined with a little cafe inside and when there's enough space also outside. Furthermore, there can be playgrounds or places for kids for playing.

How they are designed is dedicated by the shop-owners in agreement with the municipalities. The picture on the right shows a possible way, on how it could look like.

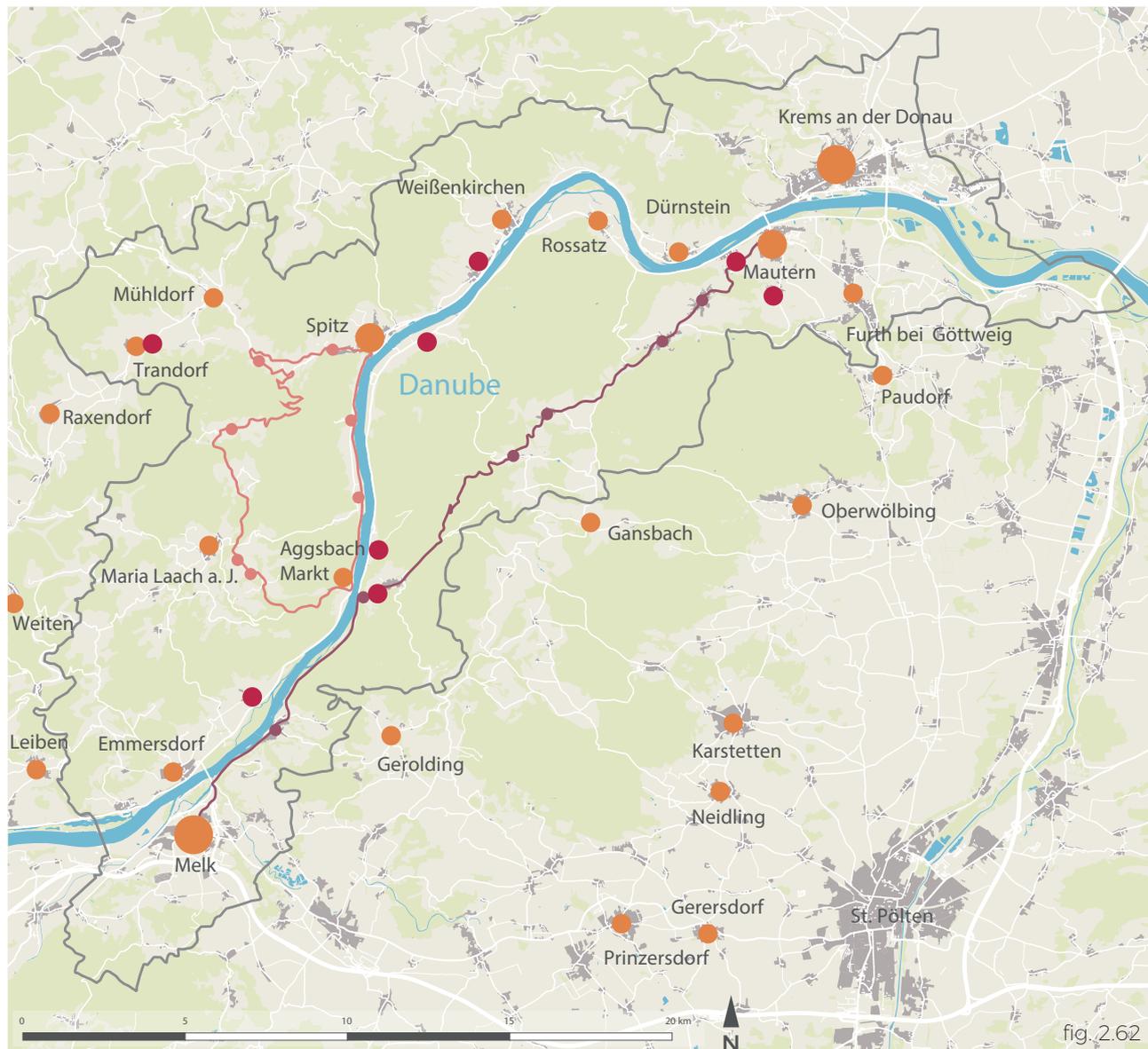
The idea is that in fact of demand-based opening hours, that the measure of establishing little cafés, the shops get another source of earnings and eventually they can open the shop the whole day.

A participation process for all these measures is necessary, because the locals are the addressees and they know what they need and don't need.



fig. 2.61

2.4 Living at the Danube



Existing and future local supply

existing local supply

- 1 shop
- 2 - 3 shops
- more than 3 shops

possibilities to expand local supply

- possible location for a village shop or a vendor
- possible route for the rolling supermarket 1
- possible stops
- possible route for the rolling supermarket 2
- possible stops

fig. 2.62 - existing and future local supply, own edit

The map on the left page shows possible locations for the vendors and stops of the rolling supermarket, as well as two possible routes for them. The locations are in municipalities in which the local supply isn't fully developed or not existing. The route from the rolling supermarket is also adapted from municipalities which has a functional local supply system. Stops are in municipalities which have no local supplier or on the new designed activity places on the Danube promenade.

The WaGro project is one of the most important measures of the „Living at the Danube“ project and has therefore the highest priority. Thus, it is also useful to implement the individual points in a timely manner. Since, for example, a bus or huts and vendors have to be procured, the investment costs are very high. In order to guarantee a functioning, it is important that the participation of the population is given.

WaGro

Goals

ensuring the local supply for the locals, especially in the small municipalities which have no or a limited access to local supply and also especially for elder people

Stakeholders

municipalities, local supply providers, locals, investors

Instruments

finance investments, sponsorships, cooperations

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.4.2 Project days for kids

For sensitizing the locals for the traditions and natural products of the region it is important to start educating the little ones – the children. Therefore, a cooperation between the schools/kindergarten, municipalities, accommodations and most important the local farmers is generated. These projects are addressed especially to schools/kindergarten in the region, but also for one from outside. As shown in the map there are many schools and kindergarten in the region, nearly every municipality has its own education spot.

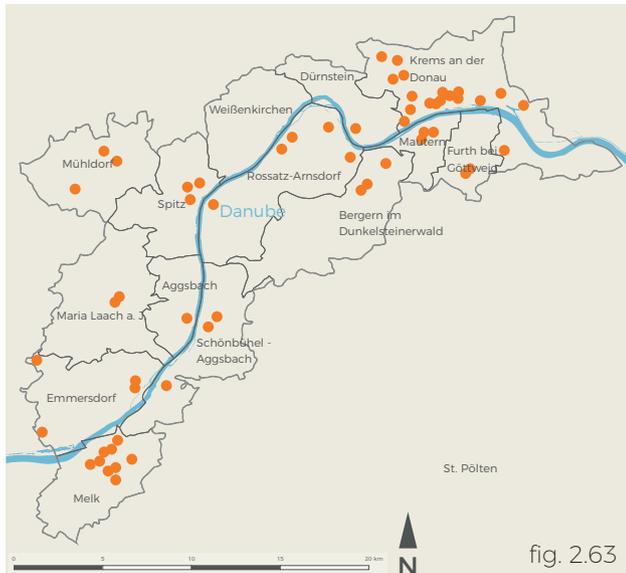


fig. 2.63

The project day (or week) can occur during the whole year, for example in spring/summer when the apricots are going to be blossoming and harvesting. So the apricot farmers or also the wineries (in autumn), offer days or weeks, where the children can learn how to grow the fruits and also help harvesting them, as well as process it to a grape juice or to learn how the dry stone terraces are built. Another possibility is to explore the forest and its wood or the Danube.

Therefore, cooperations between wineries, restaurants, wine taverns, and accommodations are necessary. On the website "Schule am Bauernhof" there are many offers from different sectors for the districts Krems and Melk, but not in the sector agriculture and they are all for one day (acc. to Schule am Bauernhof). There is a necessary need for expanding the offer in this sector.

As a good reference for a kindergarten at a farm is the farm from family Schmid. They are located in Lower Austria, near Vienna and schools/kindergarten can come for one day. The programmes are at least 2,5 hours and one can choose between two programmes. One is called "vom Boden lebt die Pflanze" (in engl.: plant lives from soil) and the second one is called "vom Rebstock zum Wein" (in engl.: from wine stock to wine). In the second program the children cut the grapes off, fill it in the squeezer and taste the grape juice.

Furthermore children learn about how the grapes grow and what is to do in a vineyard. As another possibility a round tour through the wine cellar with a candle, without electricity to experience the grape blossom, to learn knowing the different roots of plants or the variety of insects, can be offered. Moreover they have cooperations with other farms, like dairy farm or to visit the farm animals or cooperation with a restaurant, where schools/kindergarten can have lunch. (acc. to Bauernhof Schmid, 2017)

Like WaGro, the project days also have an important role to play in the region. The measure should be implemented as soon as possible. As these measures are aimed at cooperation, investment and ongoing costs are low. However, there is a higher participation, because of the cooperations with the schools, kindergarten, farmers and eventual accomodations.

fig. 2.63 - schools and kindergarten in the region

Project day for kids

Goals

pass knowledge of the culture of living and traditions on to the next generation

Stakeholders

municipalities, schools, kindergartens, winegrowers, apricot farmers, farmers, owners of accomodations

Instruments

finance investments, sponsorship, cooperations

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.4.3 Project days for adults

To bring the traditions, like especially for the region the traditional handicraft, for example building dry stone walls in the vineyards, closer to the people is not only meant for children. It is also important to bring it to adults, because adults can pass it on to their kids.

So in this case also project weeks or days for adults are established. As the projects for kids, the projects are also addressed to local people, but also from abroad. A reference for building stone terraces is Traiskirchen, where adults had a 3-days course, which was meant for winegrowers, but if there were free places everybody was invited to join the course. (acc. to meinbezirk, 2016)

Another course was held in the area of Korneuburg. The people learn how to build a stone terrace and the important facts of the background. (acc. to meinbezirk, 2013).

This measure is similar to the project days for kids. The only difference is that instead of cooperations with school and Kindergarten, only farmers are incorporated in this project.

Project day for adults

Goals

pass knowledge of the culture of living and traditions on to the next generation

Stakeholders

municipalities, winegrowers, apricot farmers, farmers, owners of accommodations

Instruments

finance investments, sponsorships, cooperations

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.4.4 Dial-a-ride transit

A possibility for moving around in the region is the dial-a-ride transit. This is mostly for the locals, but as said before it is also for tourists. It is very important for elder people, which have no car or using the public transportation is to distressing, for people who do not want to use their own car, in fact of going out, or people who have no own car.

In Krems the dial-a-ride transit is good enlarged. They have seven zones of which the price is conditional to, as seen in the map on the next page. So people can call the number half an hour before they want to leave and the taxi picks them up and they know how much they are going to pay at the end. An advantage is that the price is payed per zone and per taxi and does not depend on how much people are utilise the taxi, when there are the same start and end positions.

This zone plan is going to be expanded through the whole region of the Wachau, so particularly young and elder people get benefits from this system. (acc. to Krems Homepage, 2017)

The priority here is less than the previous ones, but this does not mean that this is less significant, as this is to support public transport. Therefore, the period of implementation is also higher. Investment and running costs are medium-term and higher, as additional cars may have to be purchased, which means that ongoing costs are also rising.

Dial-a-ride transit

Goals

extend the local mobility for locals

Stakeholders

municipalities, investors, region Wachau, locals, cab companies

Instruments

finance investments, sponsorships, cooperations

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.4 Living at the Danube

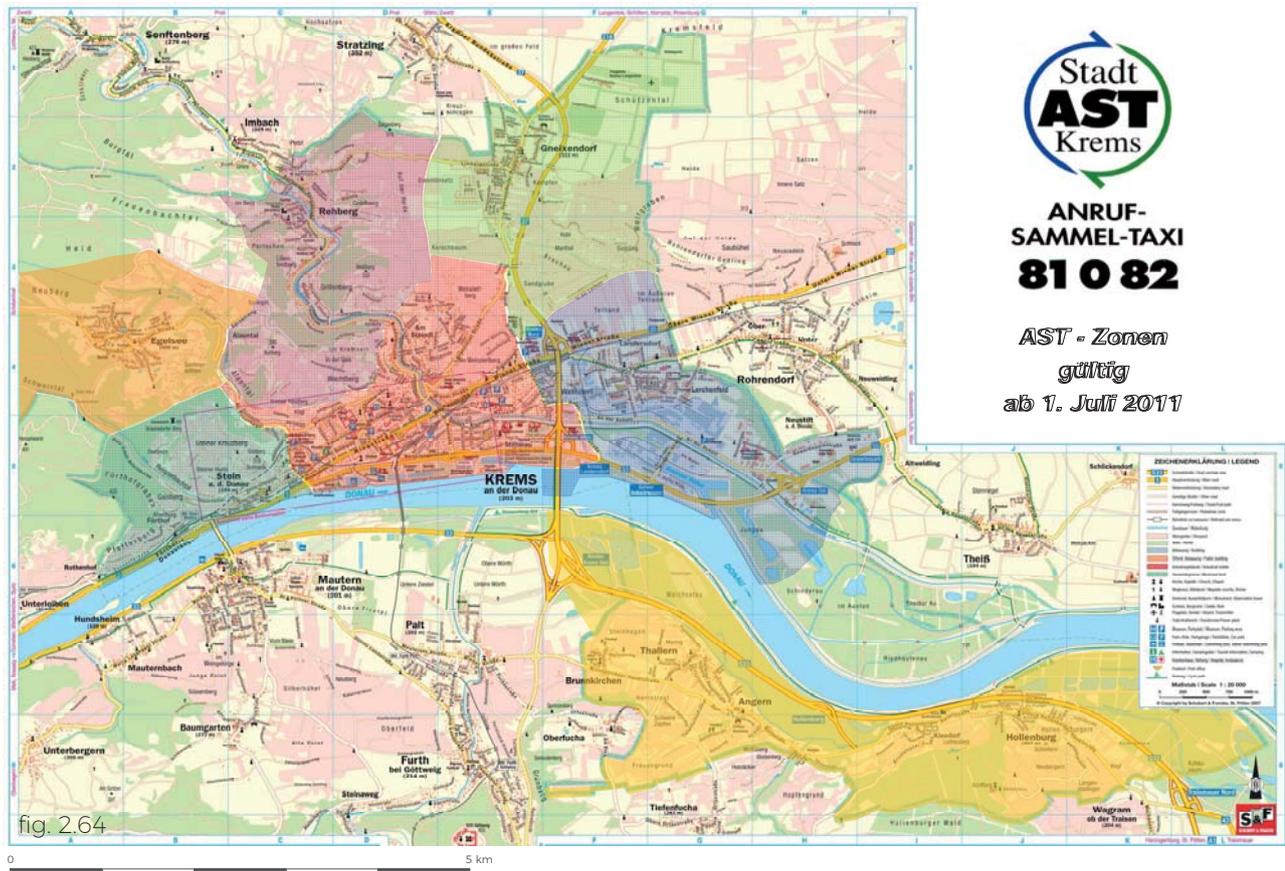


fig. 2.64 - dial-a-ride transit zones in Kremser Donau
fig. 2.65 - bus for hop-on-hop-off bus for events

2.4.5. Hop-on-hop-off bus at events

Another possibility for locals not using their car, especially in fact of going out at night, is to establish a so called hop-on-hop-off bus at events in the region. The system of this is easy explained. People can wait at the place where the event is or at a fixed point on a fixed route until the bus is coming at a fixed time, then they get into the bus and can "hop off" at any fixed point where an event is located, because of knowing the route. The ticket price depends on the events and is either included in an event ticket price or is to pay separate or the municipalities apply the costs and so it's free for the people.

A good reference is the SEESON – event in Podersdorf am See, where an old London bus was established to collect and bring people to the different locations. Many people used this system and the advantage was that they don't need their own car.



fig. 2.65

This measure has the lowest priority in the project, as it is only to be used for events and to support public transport, as well as the call collection tax. Investment costs are also created here, by purchasing or renting a bus. The running costs are lower due to the time required (time point always determined).

hop-on-hop-off bus at events

Goals

extend the local mobility for locals especially at events

Stakeholders

municipalities, investors, region Wachau, locals, event planners

Instruments

finance investments, sponsorships, cooperations

Priority



Timescale



Investment costs



Running costs



Potential of participation



2.5

Epilogue

2.5.1 Time horizon

Implementation of the projects

The implementation of the projects is arranged in order of priority of the projects. An important project is the establishing of WaGro (Wachau Grocery), which should expand the opening hours of the existing providers and extend the local supply providers. Therefore the "eatertainment", which extends the local food providers at the promenade, is a following future step.

Furthermore, at the beginning it is important to develop the electronic mobility system „ELMO“, which includes the expansion of the dial-a-ride-transit.

As a prerequisite for the revitalization and the establishment of the promenade, activity and resting places must be created. These places will be supplemented by a surface design, a lighting concept, a guidance system and the vertical access from the villages to the Danube riverbank. Moreover, the project days for kids and adults can be held at these places.

Similarly, the establishment of the marketing strategy, like the common homepage of the region Wachau, is also necessary, at the beginning of the implementation of the whole project although its priority is not the highest. All the following measures mostly which are concerning tourism are based on this marketing strategy. The realisation of the theme based events and the hop-on-hop-off bus simultaneous, because the hop-on-hop-off bus is depending on the

theme based events. To complete the marketing strategy for tourists, measures in the next years are establishing the region Wachau as a Slow Food region, or other projects such as farm holidays, rent-a-rebstock or picnic baskets for day tourists.

Stakeholders - key actors

In all projects, important stakeholders are the individual municipalities of the region Wachau. At the same time, the economic operators, such as the winegrowers or apricot farmers, the local food providers or local supply providers play also a significant part. For the implementation of the projects often sponsorships are required. Therefore, investors are needed. In addition to general stakeholders, there are still numerous actors which are individually needed in the different projects. However it is important to let the locals participate in the process of planning and implementation of the projects, because of their local knowledge. At the same time also their needs should be pleased.

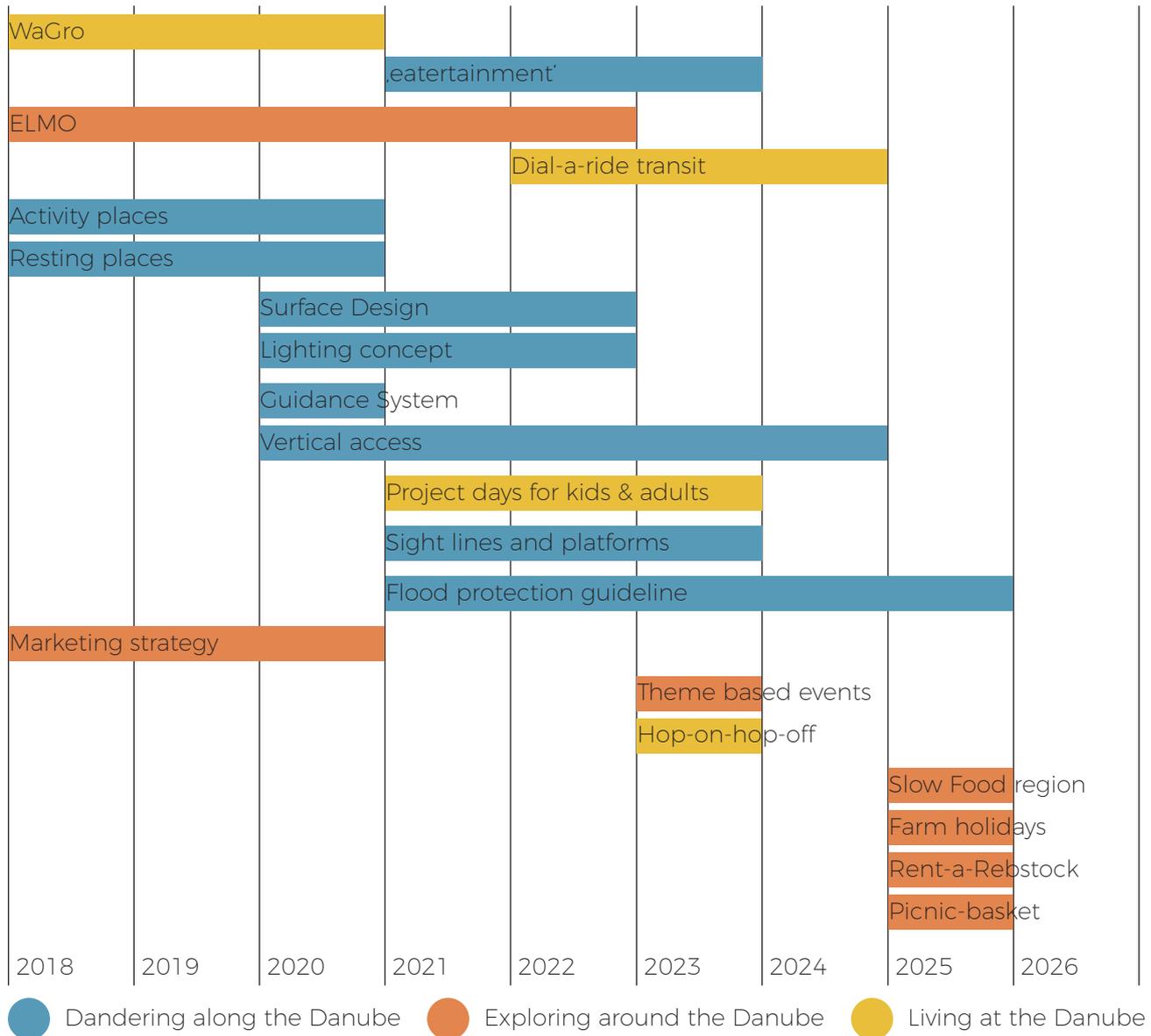


fig. 2.66 - time horizon, own edit

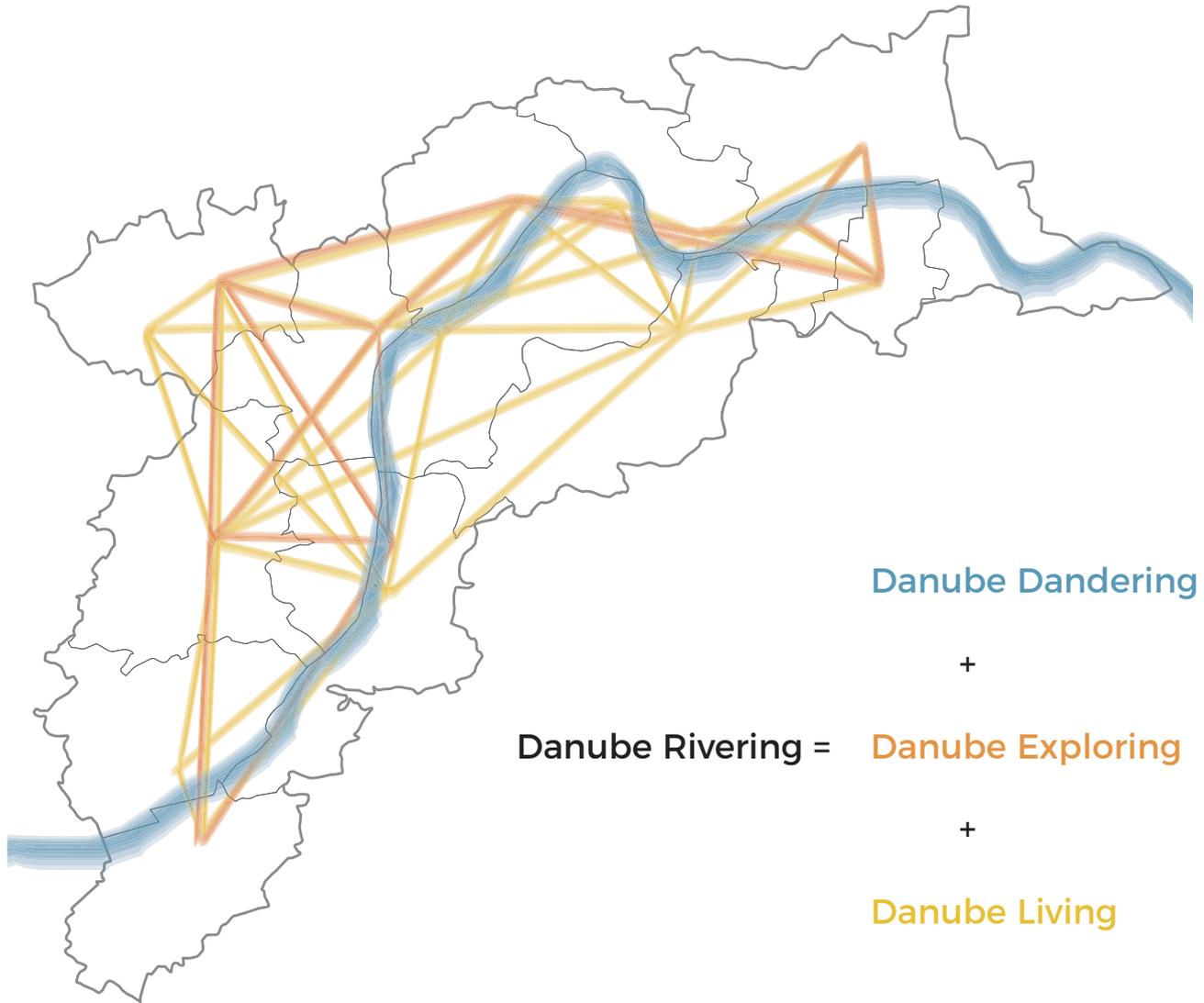


fig. 2.67 - fusion of the three foci, own edit

2.5.2 Conclusio

For reviving the region Wachau it is very important that the projects „Dandering along the Danube“, „Exploring around the Danube“ and „Living at the Danube“ are not seen as alone standing projects. The functionality of the projects is based on the fact that they are seen as a whole.

The first project is focused on reviving the area around the danube by upgrading and extending the (whole) promenade and guidelines for them. For example, a project can be a guidance system for leading the tourists and the locals to the Danube and along the Danube. Furthermore, information boards for the point-of-interests (tourist attractions) to create sightlines. With these measures the vertical and horizontal access should be reached.

This project has to be supplemented by the other measures like soft tourism to prevent mass tourism. Therefore, it is necessary that the events are distributed over the whole region, like the medieval festival in ruins or castles and the Slow Food festival in autumn. But it is important, that the winter season is seen as a recovery time not only for the nature, but also for the locals.

For the locals the most important fact is that the local supply must be secured. In the whole region there are many small suppliers, but the problem is that the opening hours are demand-based. So a solution for this problem is to expand the opening hours by establishing a rolling supermarket or vendors.

Reviving means that the region is getting vitalized, that not only the tourists, but also the locals want to be in this region. Therefore, other measures are to creating activity places and little cafés, with a quality to make people want to stay there. The places can be along the Danube on the promenade or near a point-of-interest as well as the cafés can be combined with the supermarkets. On these places the people (tourists and locals) can meet each other, communicate and maybe teach each other about the differences between the municipalities and regions.

Summarizing one can say, that the three different projects grab into each other and interact.

UNESCO



WACHAU

Tobias Puchner
Katharina Rieder
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3.1

Introduction

3.1.1 Introduction

Derivation

After the joint problem analysis we have focused on demographic change in the Wachau region. As the graph below shows, the following fields of action emerge from the problems.

Accordingly, we will try to improve the topics of the settlement/population, the social infrastructure, the tourism and the public transport/transport system in the region.

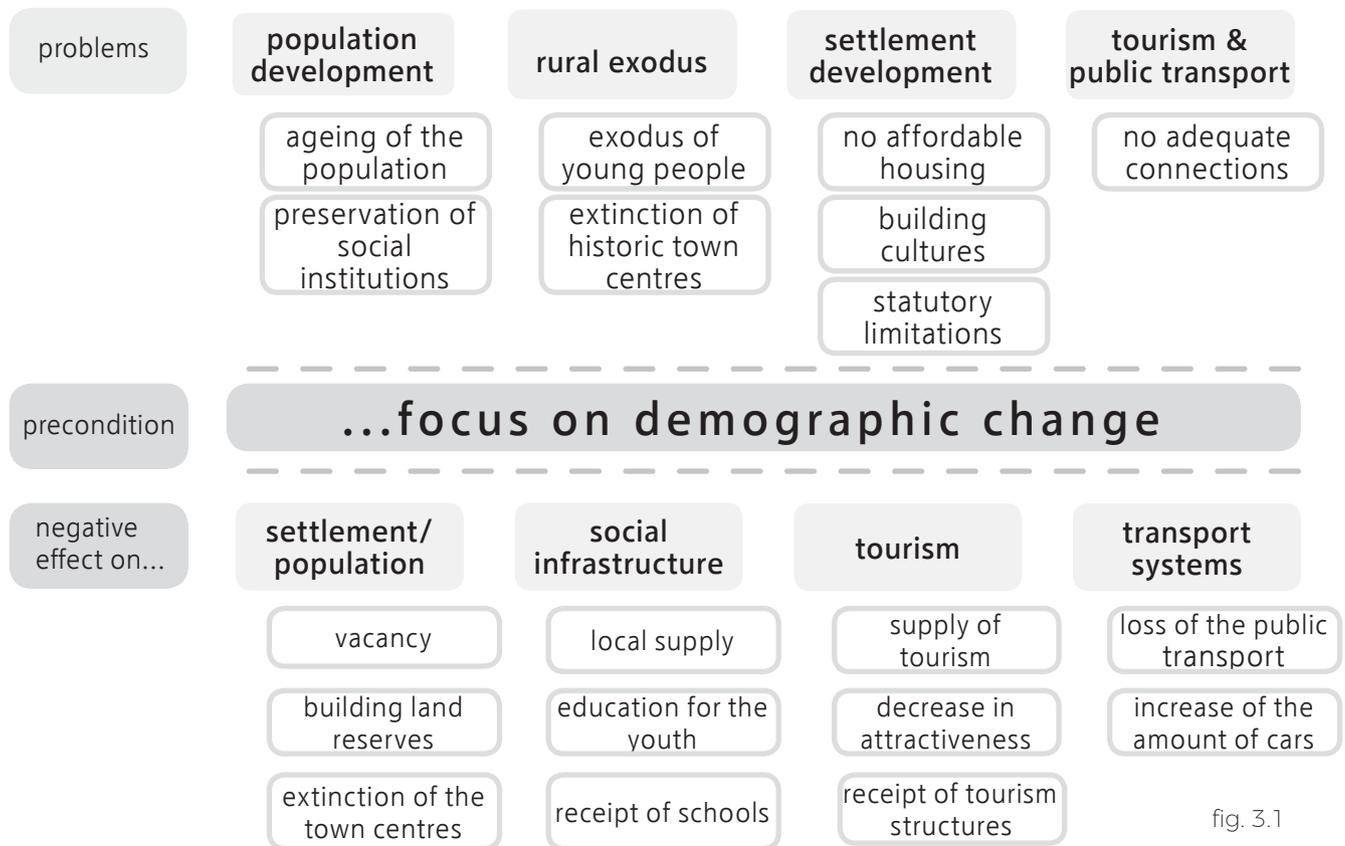


fig. 3.1

3.1.2 Our vision - UNESCO WACHAU

Introduction

The Wachau region represents an important world cultural heritage along the Danube. The current situation in the Wachau is in general positive due to its high regional qualities regarding landscape and culture. However, there are also negative developments which could become a big challenge in the future if they are not dealt with. One of those main problems is the demographic change. The ageing of the population increases and a rural exodus, especially of young people, takes place. The rural exodus is mainly connected with the expensive real-estate market in the Wachau region. This project offers possible solutions for current and future problems to guarantee the high quality of the Wachau for future generations.

Our vision

Due to the status of the Wachau as an important world cultural heritage along the Danube, the traditional and natural structures should be integrated in a sustainable region for all generations. Furthermore, the existing potentials of the Danube should be increased. The offer of social facilities, cultural activities and leisure time activities should be strengthened and expanded by new innovative supply networks. One of the main topics in our vision is the creation of affordable housing in the region. The historical centers should be preserved and enhanced in their attractiveness. Finally, a reduction of the cars and an improvement of public transport in the region are very important aspects in our vision.

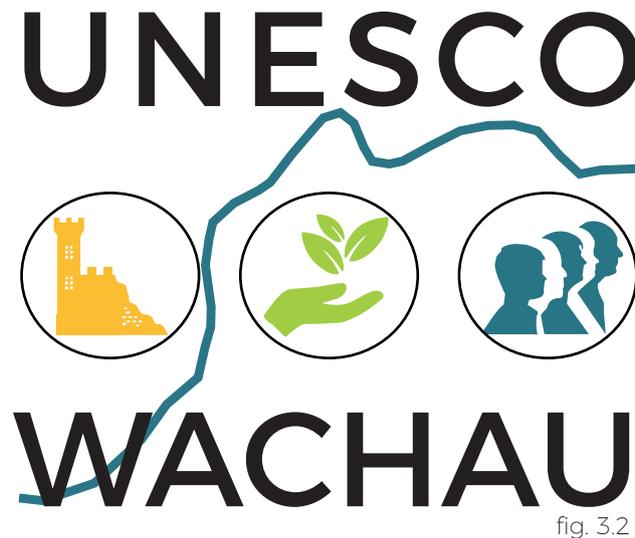


fig. 3.1 - derivation
fig. 3.2 - logo

Explanation of our vision

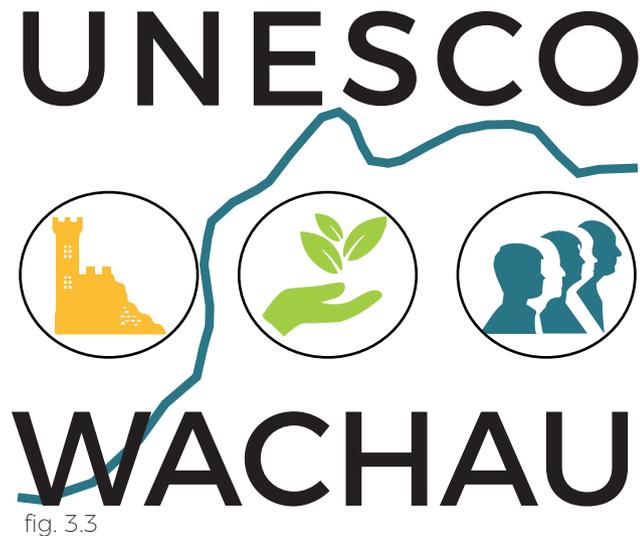


fig. 3.3

UN derstanding cultures

The focus of the vision part I - UNDERSTANDING CULTURES is on the awareness raising for all generations, the creation of new opportunities for existing cultural assets and to sustain and develop the attractiveness of tourism. The possibilities and potentials of the Danube region should be shown especially to the young generation. In this vision part I, two main projects and two side projects will be implemented. In the development of the projects, it was also very important for us that all our projects can be implemented not only in the

Wachau, but also, in an adapted form, along the whole Danube.

ES tablishing sustainability

The focus of the vision part II - ESTABLISHING SUSTAINABILITY is on affordable housing, new mobility concepts and to implement innovative supply networks in the municipalities along the Danube.

Especially the reachability is an important topic in the Wachau. The offer of public transport is very limited in the rural area. Therefore, we try to exploit the potential of the Danube as a transport route and to implement an alternative and new mobility concept with focus on e-mobility.

CO nnecting generations

The focus of the vision part III - CONNECTING GENERATIONS is on attracting rural areas for all generations, an adapted social infrastructure for old and young and a settlement development based on the population.

In this vision it is very important for us to prevent the rural exodus, especially of young people and that the elderly population has the opportunity to live in the rural area too. Furthermore the different generations should having to worry about each other's files and create a common daily life.

Vision part I

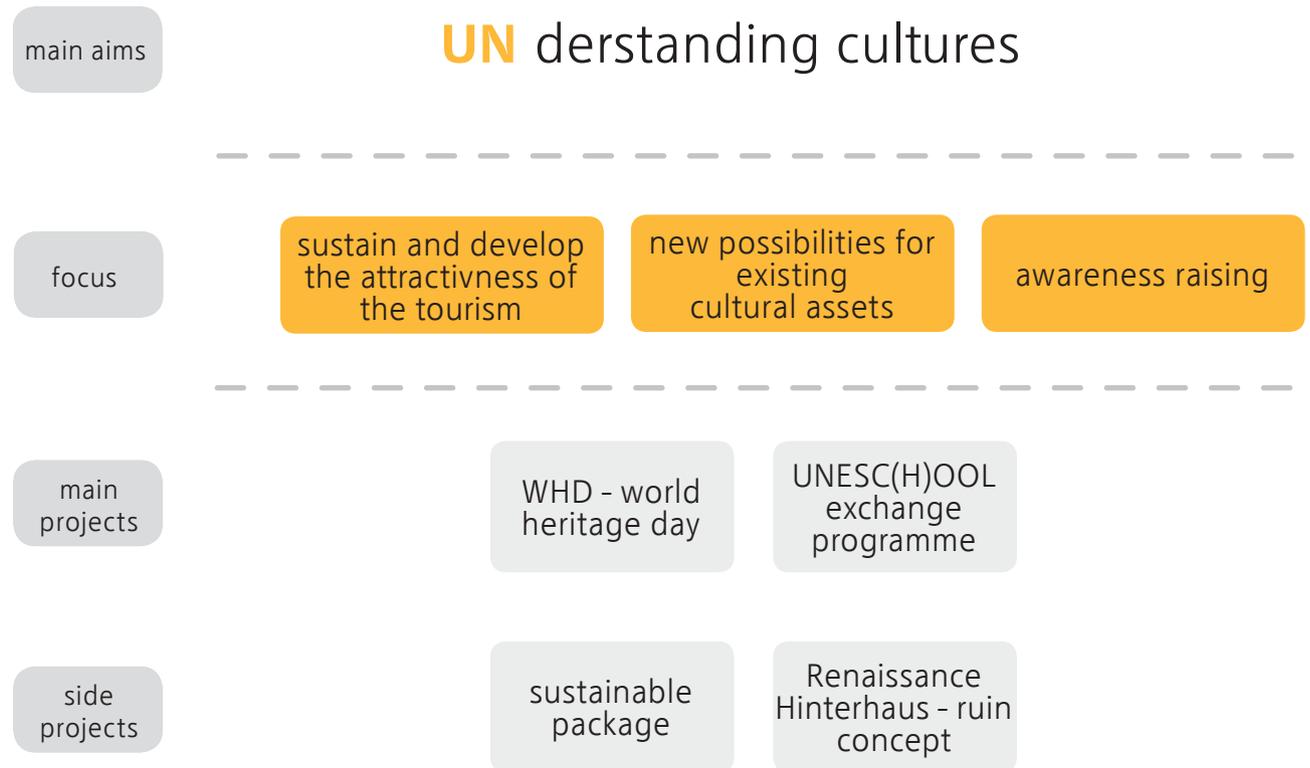


fig. 3.4

Vision part II

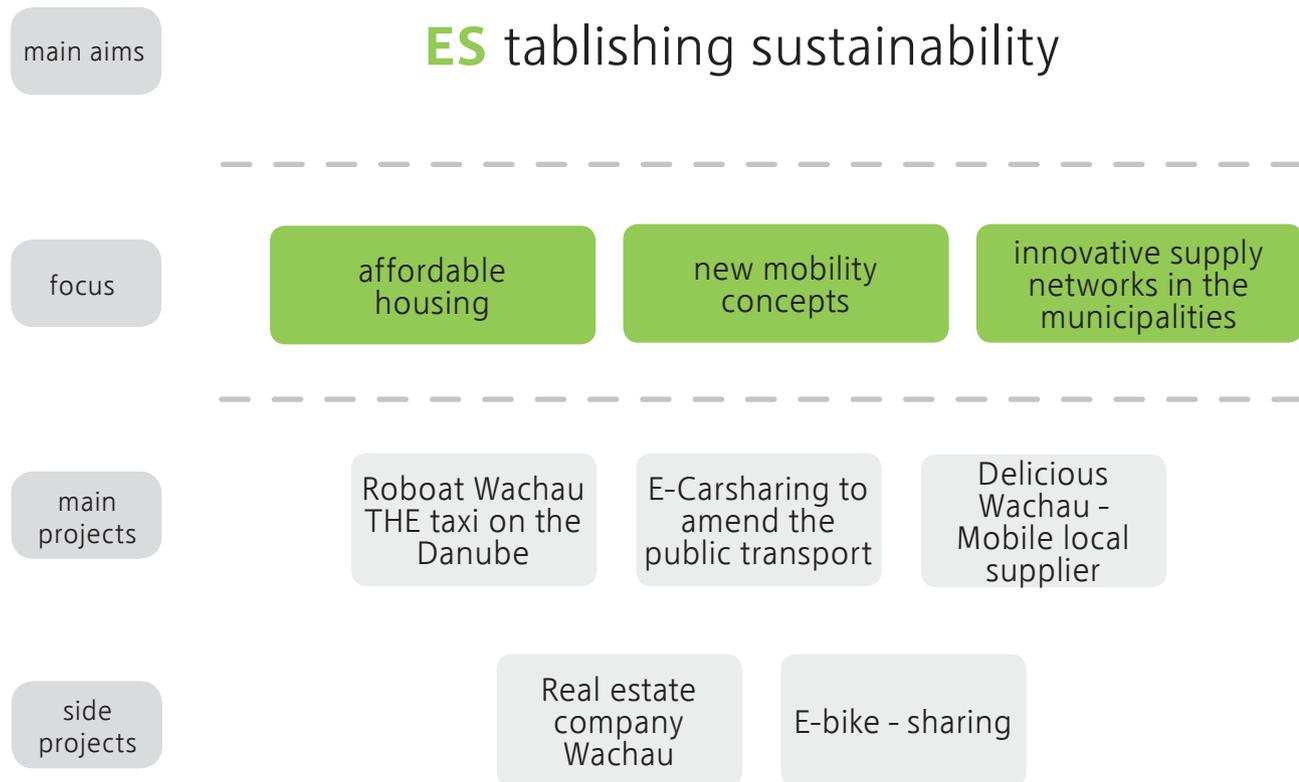


fig. 3.5

Vision part III

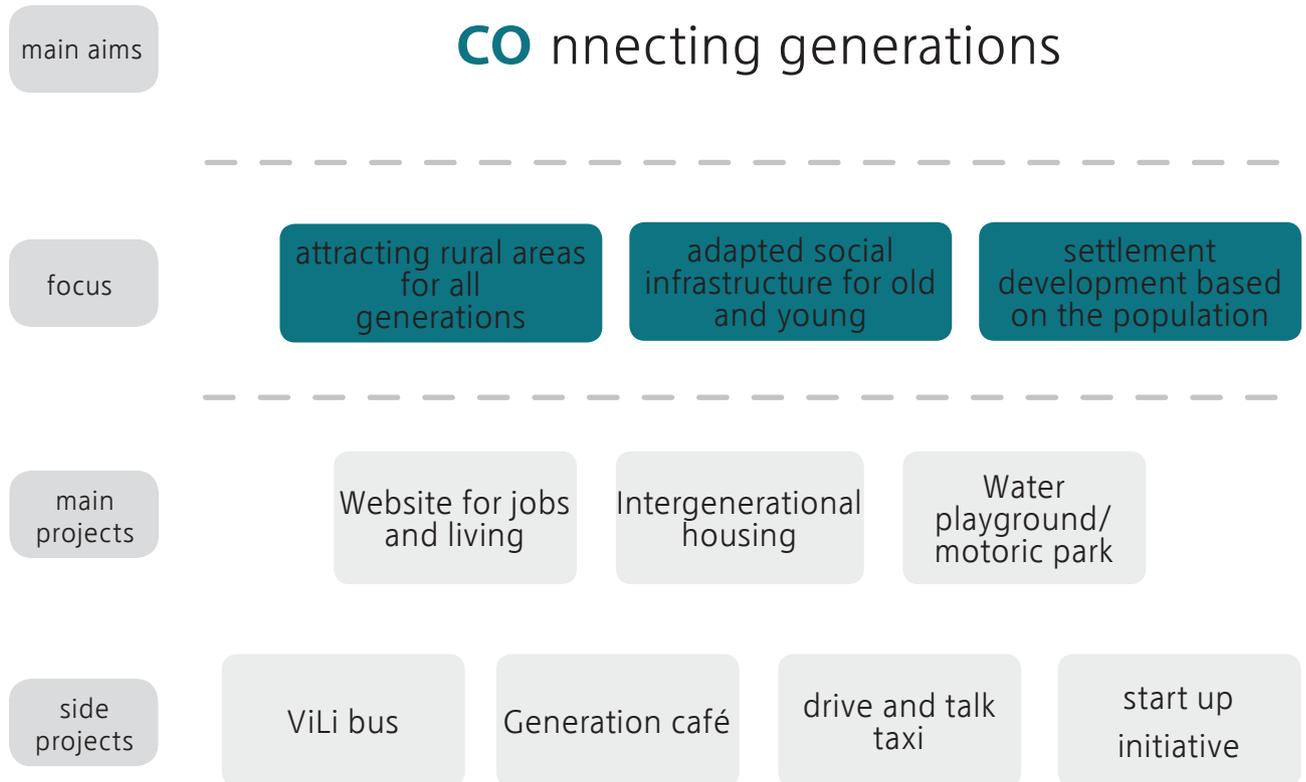
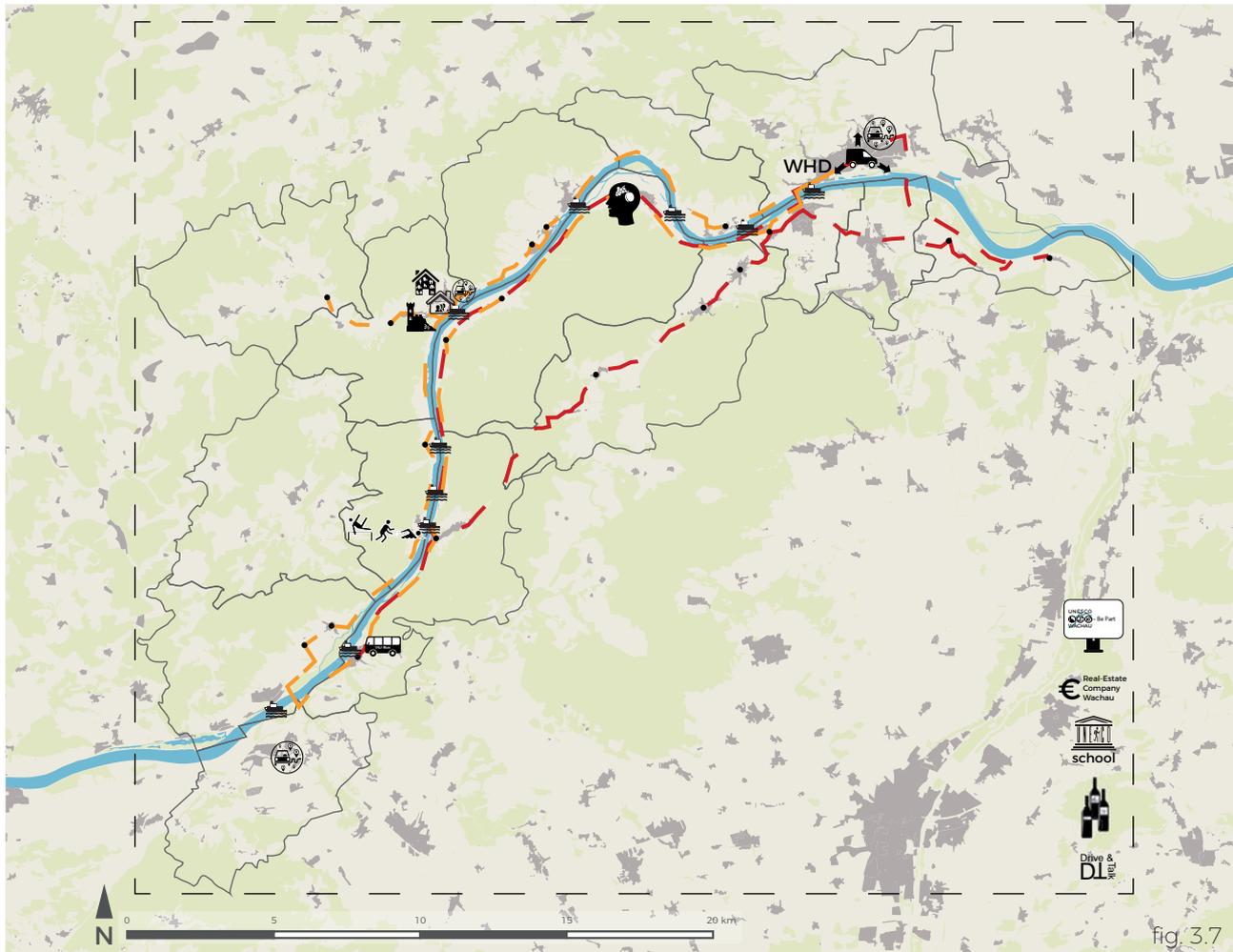


fig. 3.6

3.1 Introduction

This map shows where all the implemented projects are located. The three icons on the bottom right mean that these projects stretch over the whole Wachau region.



Project overview

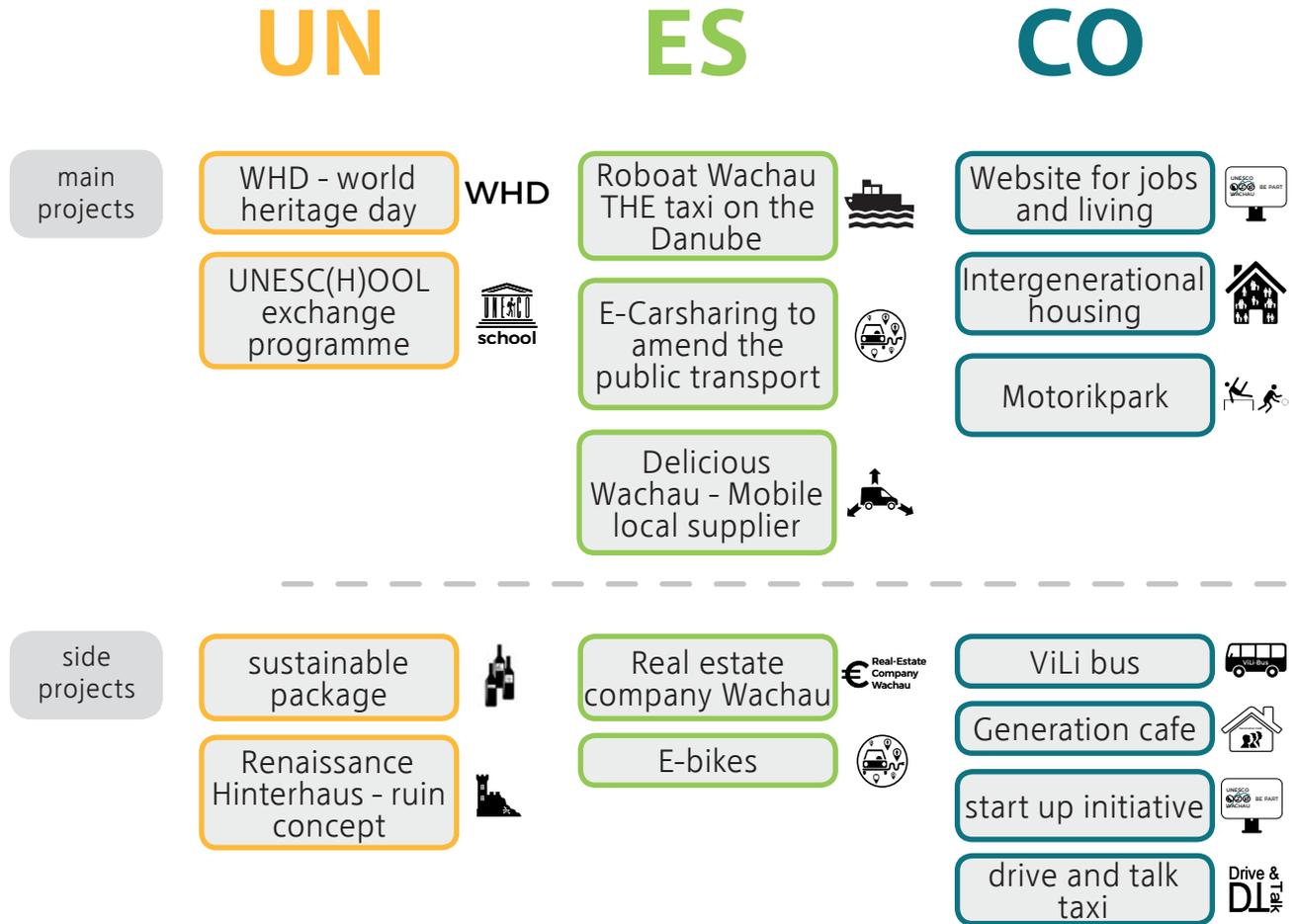


fig. 3.7 - project overview map
fig. 3.8 - project overview

fig. 3.8

3.2

Understanding Cultures

3.2 Understanding Cultures

3.2.1 UNESC(H)OOL

From the magnificent abbey in Melk to the beautiful Krems, the Wachau offers World Heritage, places of exciting history and stories and one of the most beautiful river valleys in the world - it is especially fascinating to experience the Wachau from the ship!

The UNESC(H)OOL programme is an exchange programme for children, pupils and students between World Cultural Heritage regions and regions from outside. From an early age pupils but also students shall be shown how diverse the world cultural heritage Wachau is, by what the region is characterized and what it has to offer. Pupils, teenagers and students should get the opportunity to travel to other UNESCO regions to spot the differences and develop consciousness about those worth preserving regions.

One day tours, multiple days tours and project weeks will be offered in the future in the course of this project in the Wachau.

Furthermore the programme will be designed very versatile, from nature-oriented projects to sportive activities to a life like in the medieval times in the castles in the Wachau.

UNES(C)HOOL programme

Goals

Awareness raising for young people in and outside the Wachau; Show the potentials of the Wachau region

Stakeholders

Schools, universities, clubs, LEADER, local media, Provincial administration Lower Austria

Instruments

Private-law contracts

Priority



Timescale



Investment costs



Running costs



Potential of participation



Activities of the UNESC(H)OOL programme



Shipping on the Danube

...explore the Wachau region by boat



Bake anno 1900

...bake as in 1900 with wood, fire and stone oven



Barefoot path

...enjoy the barefoot path near melk



Donkey-adventure park

...an experience of the special kind awaits you. e.g. a donkey riding licence and more



Wine and apricot world

...explore the grape harvest, taste different types of apricots and more...



Ruin experience

...live like a knight in the ruins



UNESCO hiking tour

...along a hiking trail you will explore the beautiful Wachau region



Naturpark Jauerling

...hiking through a nature park with beautiful views on the Danube and with rare animals like the green lizard



Flames and sparks

...explore the work of a blacksmith with flames and sparks



City tours

...there are very interesting city tours in Krems, Dürnstein, Spitz and Melk



Explore a viking ship

...explore the Wachau region as a viking. You are the captain of the ship.



Fauna and flora world

...explore and experience the flora and fauna along the Danube.



Hiking and climbing

...there are a lot of possibilities for hiking and climbing in the Wachau



Bicycle tour

...bicycle tours along the Danube between all the beautiful cities

UNESC(H)OOL ACTIVITIES IN THE WACHAU

On the left side of the map are the various activities of the UNESC(H)OOL exchange programmes located.

As you can see the activities are spreaded from Melk to Krems and they even reach to the outback of the Wachau. A very multifaceted programme can be experienced and lived from children and teenagers all ages.

Sportive, cultural, musical to culinary activities and events can be visited and tried out.

Also in other Danube regions it is easily possible to realise an adapted version of the UNESC(H)OOL programme to present the existing potential of extracurricular and sportive activities.



fig. 3.10



fig. 3.11

fig. 3.9 - UNESC(H)OOL.

fig. 3.10 - view on Dürnstein

fig. 3.11 - climbing in the Wachau

3.2.2 WHD (World Heritage Days)

A charming river valley and an international renowned wine-growing region - the Wachau is an unique artistic synthesis and preferred meeting place of gourmets from all over the world.

A medieval cultural landscape, carefully manicured, cautious further developed and preserved from interventions - that is why the Wachau was named UNESCO World Cultural Heritage in 2000.

This unique region has to be kept preserved and inhabited. A migration of the population should be prevented by targeted projects and by making the whole region more attractive in the future. The WHD (World Heritage Day) should raise awareness for this important and beautiful region in the population. Monthly a seasonable World Heritage Day should be created by the municipalities and associations together with the inhabitants. From grape harvesting, reparation of dry stone walls, cleaning initiatives at the danube riverside, in the

castle ruins and in the whole Wachau to activities including the tourists, the inhabitants should get more and more integrated in the region.

fig. 3.12 - grape harvest
fig. 3.13 - valley hike
fig. 3.14 - traditional festival
fig. 3.15 - building up dry-stone walls

WHD – World Heritage Day

Goals

Awareness raising for the population living in the Wachau (regarding the World Heritage)

Stakeholders

Municipalities, clubs, population, LEADER, local media, Provincial administration Lower Austria

Instruments

Private-law contracts

Priority



Timescale



Investment costs



Running costs



Potential of participation



Another scope for design of the World Heritage Day is that every municipality in the Wachau, together with all the associations and the population presents itself and organizes action days in the town. This is another opportunity to present all the communities, their extracurricular activities and their potentials.

A very successful reference project is in Weiden am See (Burgenland). On the 10th of June 2017 there will be staged a World Heritage Day, where the municipality introduces itself with different activities. The goal is to draw attention to the UNESCO World Heritage Fertö-Lake Neusiedl.



fig. 3.12



fig. 3.14



fig. 3.13



fig. 3.15

An example for a WHD activity

World Heritage Day (WHD) - May 2017

WHAT

Clean-up operation in and around the ruins

WHEN

27.05.2017 - 28.05.2017
14:00 - 18:00 pm

WHERE

> **Burgruine Aggsstein** < > **Burgruine Dürnstein** <
> **Burgruine Hinterhaus** < > **Burg Oberranna** <

CONTACT PERSON

> **fire brigade Aggsbach**
> **fire brigade Sptz an der Donau**
> **fire brigade Dürnstein**
> **fire brigade Mühl Dorf**

COMPETITION

Who collects the most rubbish, gets a **€ 100** voucher for regional products of the Wachau.



fig. 3.16



fig. 3.16 - WHD poster. Source: Own research

3.2.3 Renaissance Hinterhaus

The Wachau region is not only due its nature World Heritage site but also because of the historical structures and buildings. Ruins, monastery and castles belong to these historical sites, the map below shows these cultural assets. (acc. to region Wachau, 2017)

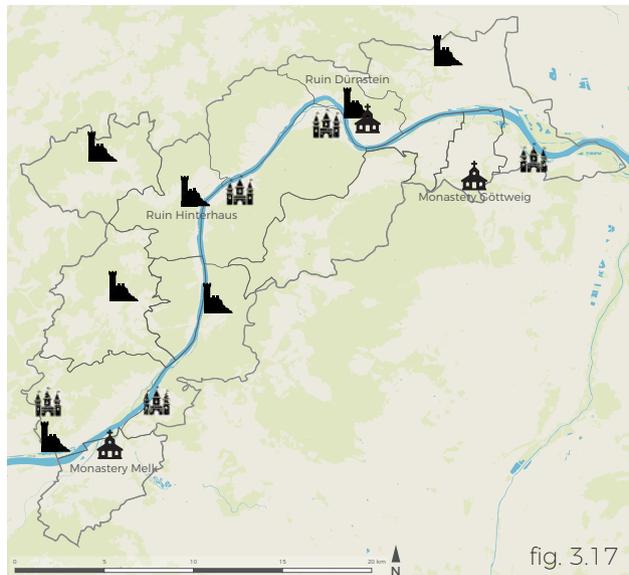
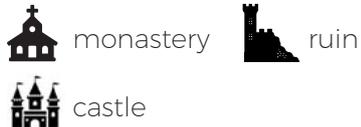


fig. 3.17



Therefore the Wachau is confronted with an important challenge regarding the preservation and the use.

Ruin Hinterhaus

The ruin “Hinterhaus” was used as an example for an useful and qualitative development of such a cultural asset. The reasons for the decision are the location and reachability as well as the preservation and condition of the ruin.



fig. 3.18



fig. 3.19

3.2 Understanding Cultures

Location and reachability

The ruin "Hinterhaus" is situated in the municipality "Spitz an der Donau", on the opposite of the famous vineyard "Tausendeimerberg" and the village "Spitz".

The ruin was built on the foothills of the "Jauerlingmassif". The foothpath doesn't involve heavy acclivities and takes only 10 till 15 minutes. At the moment there is also a forest trail, which could be extended to bring persons with reduced mobility to the ruin.

At the bottom of the hill the B3 and the "Danube Cycle Path" run past. Through public transport the ruin can be reached by bus, the bus station is in the immediate vicinity. The railway line runs directly past the hill, but the station is on the other end of Spitz (18-minute walk). (acc. to Institut für Realienkunde, 2017)

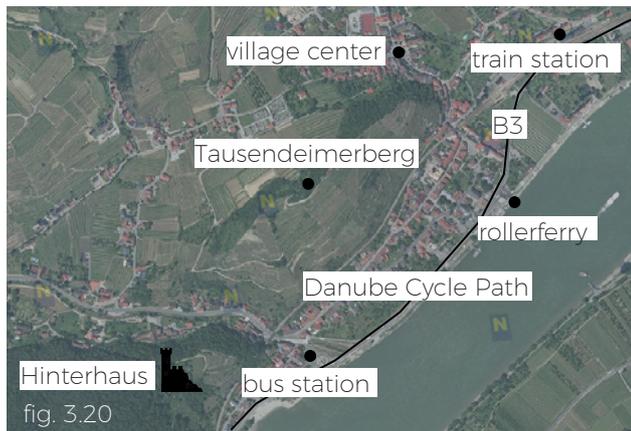


fig. 3.20

Preservation and condition of the ruin

The castle ruin consists of three different parts:

1. the bailey castle ("Vorburg") which lies in the north-eastern lower parts,
2. the main castle which takes the largest parts of the area and
3. the south-western bailey castle (acc. to Spitz an der Donau, 2017)



fig. 3.21

fig. 3.17 - cultural assets Wachau

fig. 3.18 - Hinterhaus

fig. 3.19 - Hinterhaus entrance

fig. 3.20 - Location of Hinterhaus

fig. 3.21 - Hinterhaus bird's perspective

The foundation wall of the ruin is, for the most parts, well preserved. Also the donjon still exists and is today a lookout tower.

Since 1970 Hinterhaus is the property of municipality "Spitz an der Donau" and is maintained by the "Spitzer Verkehrsverein" since 1977. They are responsible for the redevelopment and the maintenance of the ruin. The visit of the ruin is free. (acc. to Institut für Realienkunde, 2017)

Renaissance Hinterhaus

Renaissance stands for the revival of the ruin and a sustainable development.

For this development a cultural utilization concept is being worked out for Hinterhaus. The forecourt of the ruin has 112 square meter and is suitable for a cultural pavilion. The pavilion as well as the whole ruin will be used as an event location, for example for method acting, readings

or expressive dance. (acc. to wemakeit.ch GmbH, 2017) The ruin will also be a spot for the UNESCO(H) OOL exchange programme and the WHD.

Responsible for the cultural development of the ruin is the tourism association Spitz together with the municipality Spitz, the population and the "Arbeitskreis Welterbe Wachau and Donau NÖ Tourismus GmbH".

References for such an utilization concept would be the ruin "Heinfels" in East Tyrol or the ruin "Blumenegg" in Vorarlberg. (acc. to Netzwerk Zukunftsraum, 2017)

The investment costs are lower than by the reference projects because the ruin was already renovated during the last years. The biggest investment is the cultural pavilion. The running costs are primarily the maintenance costs. The potential of participation is very low, only the cultural programme can be influenced.

Renaissance Hinterhaus

Goals

Preserve cultural assets, awareness raising for history, create a new cultural area, sustainable use

Stakeholders

Spitz, LEADER, provincial administration, tourism association Spitz, architects, population, Arbeitskreis Welterbe Wachau and Donau NÖ Tourismus GmbH

Instruments

Land use plan, building plan, utilization concept, private-law contracts

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.2.4 Sustainablepackage

The tourists in the Wachau travel mainly by car or by cruise ship. However, this often results in only a short transit without any consumption or overnight stay. To prevent this, tourists are offered special „packages“ as an incentive to travel by public transport.

These „packages“ include the „Wachau Public Transport Ticket“, by which the whole public transport in the Wachau can be used. Therefore it includes the Wachaubahn, the future RoBoat as well as the bus. Furthermore, every package includes the free entrance in the UNESCO-centre in Krems-Stein to give the perfect input for a Wachau-journey.

In addition, the overnight stays should be increased due to the attractive „sustainable-packages“.



fig. 3.22

package Steinfeder

„The name Steinfeder refers to the native grass growing in the Wachau on rocky, high meadows. The feathery grass can be found on the hats of the traditional Wachau costumes. Steinfeder wines are characterized by its fresh and slightly fruity taste.“ (acc. to www.wachaublog.at/)

Based on the description of the wine, the package „Steinfeder“ includes the fruity note in different dimensions as well as the natural experience of the Wachau.

Steinfeder:

arriving by train
visit of the UNESCO-Centre
ride with the Wachaubahn to tasting at one's own option (apricots, wine, combined offer)
round guide through the vineyards and apricot gardens
overnight stay in hotel at one's own option
return home by train

package Federspiel

A „Federspiel“ (engl.: feather game) describes the spherical shaped prey traps used in the falcon hunt - which used to be very popular in the Wachau.

(acc. to www.wachaublog.at/)

Derived from the athletic origin of the name of the wine, this package includes sporting offers for those who are very spirited and lively.

Federspiel:

arriving by train (including bicycle transport if required)
hiking on the UNESCO-hiking trail
choice between different athletic offers (kayak, bicycling, rock climbing,...)
dinner included
return home by train



fig. 3.23



fig. 3.24

package Smaragd - „Emerald“

Anyone who has already walked around in the Wachau vineyard on warm days will have seen Wachauer's emerald lizards on the dry-stone wall. The emerald lizards gave their name to the highest quality of the Wachau wines. Emerald wines originate from grapes of the best Wachauer locations, and are mostly from late vintage .

(acc. to www.wachaublog.at/)

For this reason, the Emerald is the diamond among the packages. With its exclusive programme, it highlights the sparkling sides of the Wachau. In this package, you can choose between the number of overnight stays according to your specific needs.

Smaragd

- arriving by train (first class ticket)
- visit of the UNESCO-Centre
- ride with the Wachaubahn
- visit of ruin Aggstein
- exklusive dinner on ruin Aggstein
- wine tasting session
- overnight stay in ****/***** hotel at one's own option
- large breakfast
- return home by train (first class ticket)

The priority of this project is not very high, but it would be a nice sideproject to implement. The investment costs are low, the only costs arise through brochures and advertisement. The same costs arise as running costs to spread the offer among tourists.

fig. 3.22 - Steinfeder
fig. 3.23 - Federspiel
fig. 3.24 - Smaragd

Sustainablepackage

Goals

motivate tourists to travel without their own car and use public transport, increasing amount of overnight stays

Stakeholders

municipalities, provincial administration, representatives and decision-makers from business and associations

Instruments

incentive

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.3

Establishing Sustainability

3.3.1 Delicious Wachau

A local supplier is an important part of the livelihood of the population and improves the quality of life in an area. In rural areas locals must often drive by car to buy the products they need for daily living. This is especially for persons with reduced mobility like older generations a big challenge.

The map shows the Wachau region and the existing supermarkets. As usual there are supermarkets around the urban areas, like Melk, Krems or Spitz. More surprising is that in the municipalities Maria Laach am Jauerling and Mühldorf offer supermarkets too. However, there are also a lot of smaller villages without one.

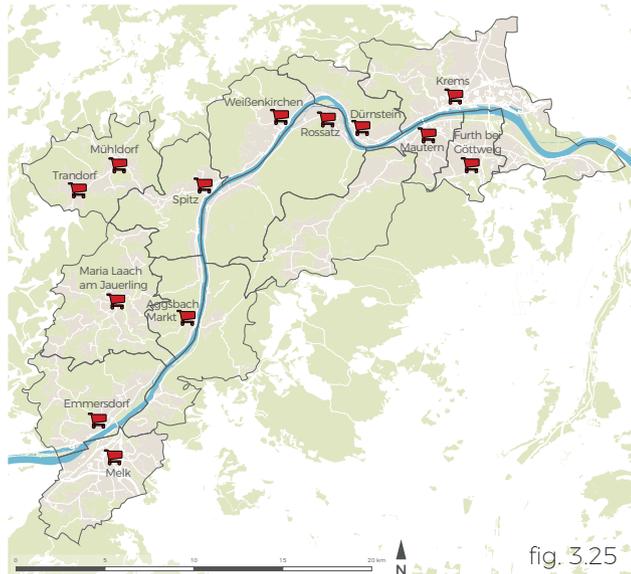


fig. 3.25

One approach to provide for this villages a possibility of purchase is to initiate a mobile local supplier. The concept of a mobile supplier is already in use in many Austrian regions, to provide a saturation supplying in rural areas. However, there are different versions: From a mobile bakery over a mobile delicatessen shop till a whole mobile supermarket.

To offer the most important products for the population throughout the Wachau, a mobile local supplier called "Delicious Wachau" will be realized. "Delicious Wachau" is a coalition of different local farmers and producers. Through the mobile supplier they can offer their products which also increases their visibility. The concentration on regional products as well as transparent production processes are also an advantage of the mobile supplier in contrast to the common supermarkets. There the population gets to know the producers. In addition the mobile supplier also full-fills a social function during its stay in the villages.

An example for a mobile supermarket in Baden-Württemberg, Germany, is „Unser rollender Supermarkt“. This mobile supplier is also focused on the commercialization of regional products. The supermarket is driving through the region from Tuesday till Friday, the stay in the village depends on its size and the demand. The stops vary between 15 minutes and 45 minutes. (acc. to Schmid's rollender Supermarkt, 2017)

Advantages of mobile suppliers:

- The supply with the most important products is also in small villages possible, where a common supermarket is not profitable.
- The mobile supplier can be reached by foot and is so also reachable for people with reduced mobility
- The range of products is coordinated with the interests of the population
- The mobile supplier has also a social function, because of the direct contact between producer and customer and because of the shopping together during the time that the mobile supplier is in the village. (acc. to Meixner et al, 2007)

Disadvantages:

- Due to the lack of room the range of products is very small.
- There is a strict timetable when and where the mobile supplier stops (acc. to Meixner et al, 2007)

The legal form of "Delicious Wachau" could be a cooperative association. The cooperative association has the advantage, that it can be profit-oriented but it doesn't need an initial capital. (acc. to Genossenschaftsverband, 2017)

3.3 Establishing Sustainability

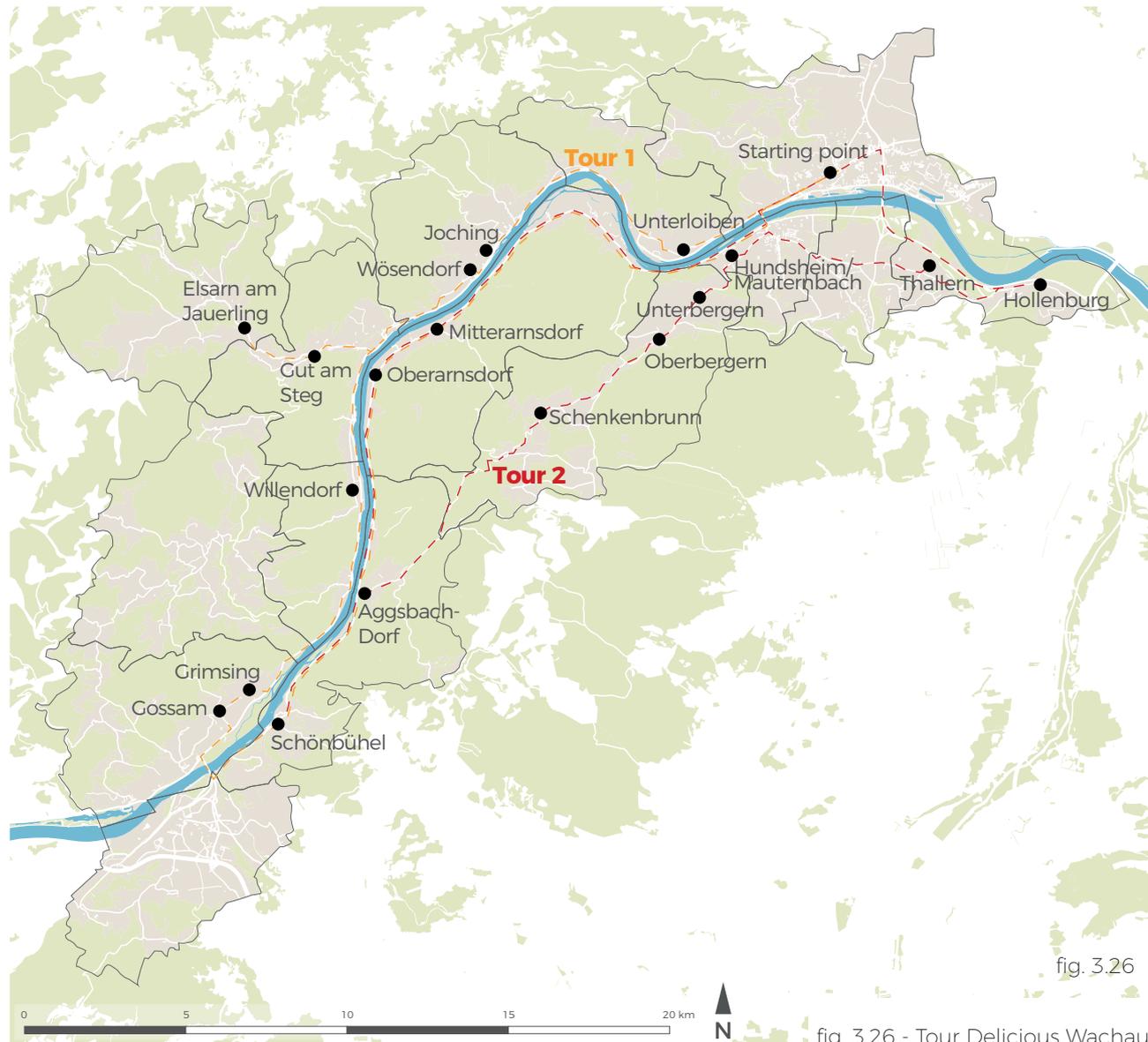


fig. 3.26

fig. 3.26 - Tour Delicious Wachau

Tours of Delicious Wachau

The starting point as well as a storage place is situated in Krems an der Donau. Most of the products which are food or beverage are coming from the farmers and producers in the area.

The map on the next page shows two possible tours, in this example the mobile supermarket only stops in villages without a supermarket.

The tours as well as the timetable should be planned together with the inhabitants. In addition the product range can be tailored to the needs of the population, as already mentioned at the advantages. This also explains the very high potential of participation which comes along with this project, see project box page 34.

The timescale to realise “Delicious Wachau” is set for only one year because it doesn’t need large construction works.

That a possibility to buy products for daily living is important is also demonstrated through the different sponsorship programmes: The province Lower Austria offers two (acc. to Land Niederösterreich, 2017) and the LEADER region Wachau-Dunkelsteinerwald offers one sponsoring opportunity. (acc. to LEADER region, 2017)

The investment costs for “Delicious Wachau” amount to under € 50.000, the most important and expensive investment is the sales vehicle. The running costs are also expected to be low and should be covered through the income. In addition the mobile supplier also full-fills a social function during its stay in the villages.

mobile local supplier Wachau

Goals

Guarantee local supply in the region, provide person with reduced mobility with groceries, establish market principle (social function), support regional products

Stakeholders

Local farmers and companies, municipalities, LEADER, population, local media, provincial administration

Instruments

Founding a cooperative, private-law contracts

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.3.2 RoBoat Wachau

As use for a improved connection, a autonomous driving waterbus, called „RoBoat“ will make the villages easily accessible to the inhabitants and strengthen public facilities, trading and production companies by mutual use. Furthermore, a stronger attraction in the Wachau could be created by cross-linking the common culture as well as for example hiking trails of all municipalities. It also offers an additional possibility of changing the river bank.

The focus would be on the landscape of the Wachau and its sights, which should be brought back into focal point by cross-linking the municipalities and the concomitant slowing down of the transit flow of the car and bicycle traffic.

reference Amsterdam:

The idea of the autonomous waterbus, which is operated by solar energy, is the result of a cooperation between the universities of the USA and the Netherlands. They developed the autonomous boats as well as the first prototypes, which are now in 2017 being tested on the canals of Amsterdam.

The waterbuses will not only transport people, but also freight. Furthermore, the developed prototypes are also used as bridge construction vehicles, which can be used when required. The boats also have integrated sensors, which produce a permanently updated measurement of the water quality and analyze the noise. This should help to reduce the waste in the canals. (acc. to www.ams-institute.org/)

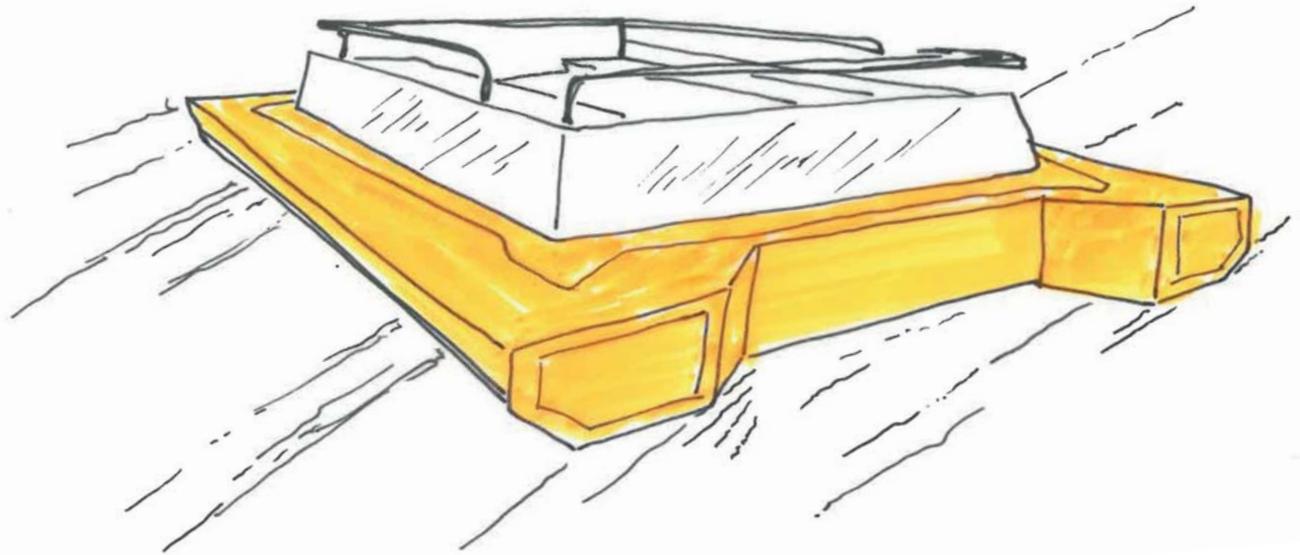


fig. 3.27

fig. 3.27 - sketch of a RoBoat, example autonomous waterbus Amsterdam, Netherlands

3.3 Establishing Sustainability



fig. 3.28

fig. 3.28 - localisation of the shipping piers

RoBoat shipping piers

On the left side, the currently existing shipping piers are located. It differentiates between those who are in possession of the provincial administration of Lower Austria and those in private ownership. Those shipping piers owned by the provincial administration of Lower Austria would be enough to serve the area. However, five municipalities are not equipped with shipping piers, which should be supplemented in order to guarantee an optimal supply of the Wachau. They are located in Mautern, Willendorf, Aggstein, Aggsbach-Markt and Schönbühel and marked in orange in the fig. 3.28.

-  in possession of Lower Austria
-  privately owned
-  necessary additional shipping piers

The project will take the longest to be implemented as the technology has yet to be developed. How long it takes for research to be marketable can hardly be estimated. Nevertheless, the project has a high priority because, on one hand, it would abolish the separating effect of the Danube and, on the other hand, the tourist masses could be transferred from the road to the water. The investment costs would be estimated to be very high as it is a new technology that is only in the initial phase.

Also the running costs would be higher due to the maintenance of the expensive waterbuses. The potential of participation while development is low, since only in the setting up phase of the stations of the waterbus, opinions can be taken into account.

RoBoat Wachau

Goals

connecting all municipalities with each other sustainable, dispensation of the streets

Stakeholders

municipalities, provincial administration, federal Ministry of transport, innovation and technology

Instruments

private-law contract

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.3 Establishing Sustainability

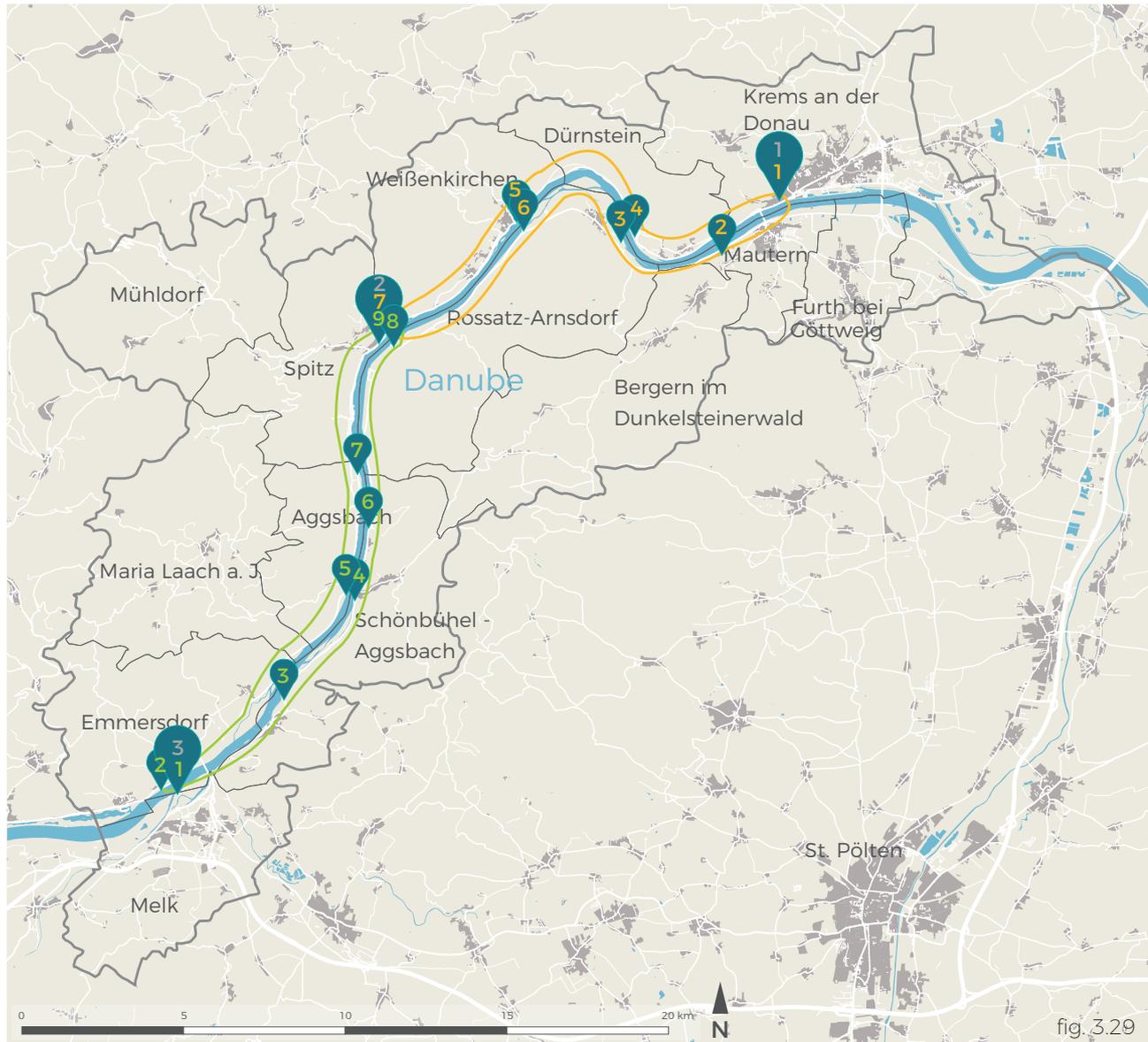


fig. 3.29

Possible routes

The routes are divided into three lines:

Line 1 is intended as a fast connection for the western part of the Danube and runs between Melk and Spitz.

Line 1:

Melk – Emmersdorf – Schönbüchel – Aggsbach-Dorf – Aggsbach-Markt – Aggstein – Willendorf – Spitz

Line 2 runs in the eastern part and connects Spitz and Krems.

Line 2:

Spitz – Weißenkirchen – Rossatz-Arnsdorf – Dürnstein – Mautern (/Bergern) – Krems

In order to connect the two lines and to guarantee a quick change to the respective other line, line 3 acts as a fast link between Melk and Krems and has as only intermediate station Spitz. This also provides a quick link between the larger cities.

Line 3: Melk – Spitz – Krems

The stations are all centrally located in the municipalities, with the exception of Melk and Krems, where bus connections should guarantee a fast onward journey to the respective destinations.

- Line 1
- Line 2
- Line 3



station

It is important to integrate the local boat suppliers into the initiation and design of the RoBoat from the beginning and to perceive them as active players. Due to the fact that the project will only be possible in the distant future, integration is possible right from the start. Otherwise the danger to take away the source of their income could occur. In addition, the current ferries operating as an additional offer are to be maintained and used mainly for the transport of cars.

The costs for the use are based on the current price, but there are cheaper options for locals in comparison to tourists due to the possibility to purchase a monthly or year card.

Since the waterbus is intended for both locals and tourists, tourist destinations such as Aggstein and Willendorf are included in the timetable.



fig. 3.30

fig. 3.29 - possible routes of the future RoBoat

fig. 3.30 - current view of the boat station in Spitz

3.3.3 E-Carsharing Wachau

The E-Carsharing project in the Wachau constitutes an alternative and sustainable traffic model for the population of the municipalities in the region. Furthermore the carsharing should provide an addition to the public transport. For young families, who perhaps do not have an own car due to financial reasons, the E-Carsharing is an eco friendly and convenient possibility of locomotion in the region.

In selected municipalities, specially declared parking areas for the charging of the cars are provided and the inhabitants are allowed to use the cars for a small usage fee.

10 points for the E-carsharing in the Wachau:

- share instead of possess
- CO2 reduction
- traffic reduction
- save costs
- enthusiasm for e-mobility
- personal contribution to climate protection
- energy reduction
- integrative aspect of mobility
- supplement to public transport
- provide alternative concepts of mobility

E-Carsharing Wachau

Goals

Implementation of alternative sustainable transport models and amendment of the public transport system

Stakeholders

Municipalities, Provincial administration Lower Austria

Instruments

Private-law contracts, founding an association

Priority



Timescale



Investment costs



Running costs



Potential of participation



Why in the Wachau?

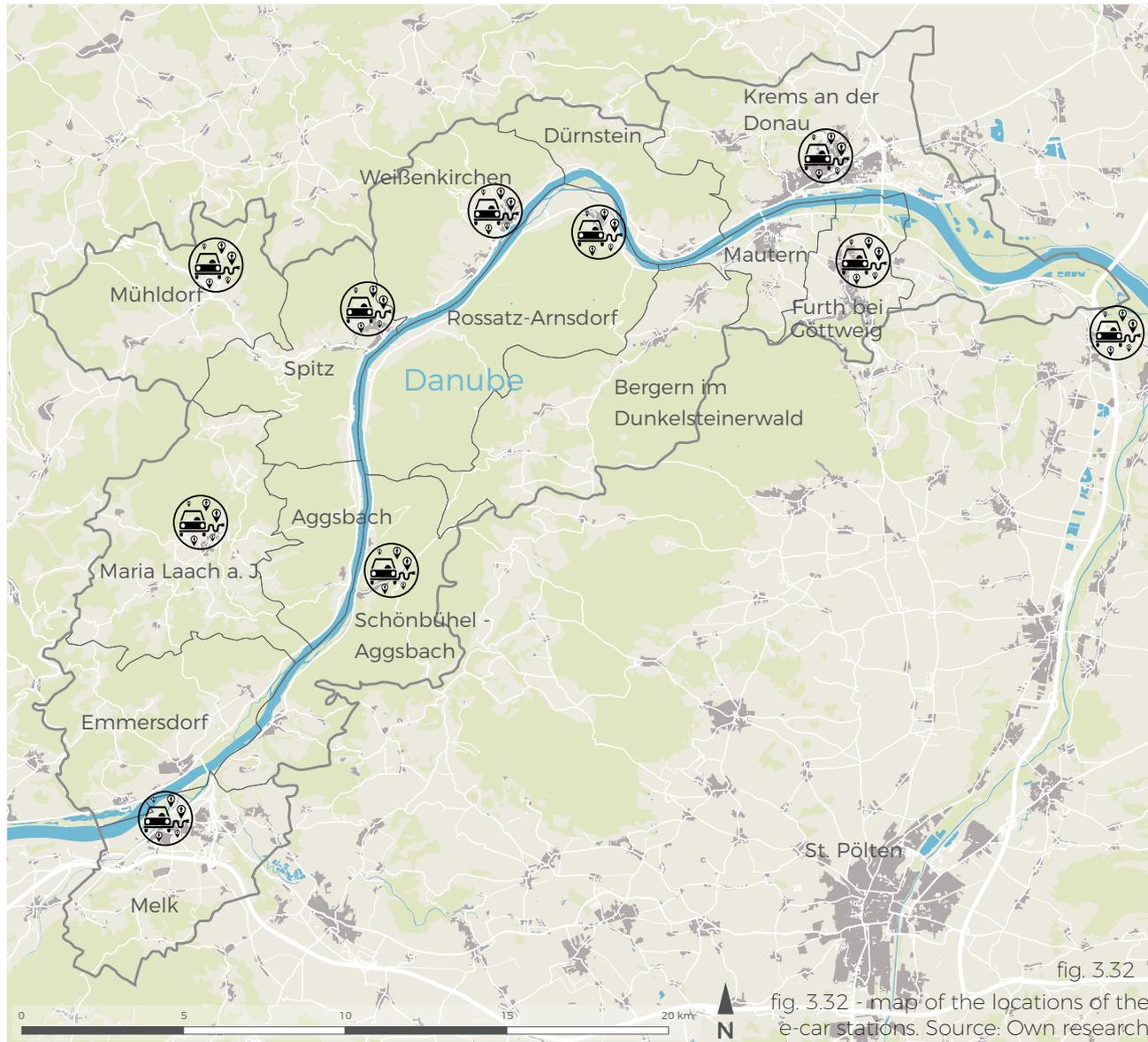
In our opinion this project is a perfect measure to realize our key project “Establishing sustainability”. An alternative traffic model for the general improvement of the traffic situation in the Wachau is offered in a sustainable, energy-conscious and environmentally friendly way. This project will not lead to a reduction of the cars or replace the public transport, but existing gaps in the traffic system will be filled. Existing gaps for example are the transport connections between the municipalities as well as the connections between the centers Krems and Melk. Additionally by now there are already widespread and deliberate E-Carsharing projects in Lower Austria to which we want to connect our project in the Wachau. As you can see on the map below, in the Wachau indeed is a gap in the already existing Lower Austrian E-carsharing network.



fig. 3.31

fig. 3.31 - map of existing E-car projects

3.3 Establishing Sustainability



Where in the Wachau?

In the map on the left you can see the future development of the E-Carsharing in the Wachau region. The locations are deliberately chosen to ensure a compact E-carsharing network in the Wachau region.

The way to carsharing

sponsoring organization

For carsharing in the Wachau the respective corporation is defined as operator. For the running and all arising duties (billing, maintenance, cleaning) the corporation should be responsible as well.

Users

The E-Carsharing is not only limited for private citizens, it can also be used by the corporation for official business rides or by the involved operators. Nevertheless the target group for this project will be the inhabitants of the Wachau at an age between 20 and 50 years.

booking system

The key component of an E-Carsharing solution is the brokerage platform, in other words the

booking system. Through this online platform all the bookings for the vehicle will be processed automatically and without staff expenses.

On the computer or smartphone one can see immediately if the car is still available or already reserved. For spontaneous reservations there is as well an up-to-date battery indicator. After the accomplished booking the car can be opened and started either by use of a card or a smartphone. Moreover the relevant fees are written off of the user account. An electronic driver's logbook is always included.

usage fees

annual costs, low usage fees

For permanent users there will be a fixed annual fee between € 100 and € 300 (depending on the number of users). For every usage there will be a fee either time-dependent or per kilometer. With a fee for the time the car is used, it can be assured that the car is actually only booked for the required time. Those costs will be between € 1 and € 4 per hour.

legend:



locations of E-Carsharing

project facts

time horizon

The time horizon for the implementation of this E-Carsharing concept is set low, because the project is designed to be realised in 3-5 years. The extent of the realization can be set at will. The number of the cars can be modified and depends on the budget of the corporation.

investment costs

The investment costs for the E-Carsharing project in the Wachau are set "high" (that means € 200.000 - € 500.000).

- installation of the charging stations in Wachau and the selected corporations (€ 500 - € 2.000 per charging station, depending on capacity and individual conditions on site.
- € 1.500 per charging station in the Wachau

purchase of the E-cars

- smart for two electric drive - € 24.500 per car
- other expenses (App, personnel costs, etc.)

For the construction of 18 E-Car charging stations and the purchase of 15 smart for two electric drive cars the investment costs will be around € 400.000.

running costs

The running costs (electricity, maintenance of the charging stations, servicing/reparation for the cars) are expected to be between € 10.000 - € 20.000 per year. Those costs depend on the usage of the cars. For a smart for two electric drive costs per 100 kilometers are expected to be around € 3,50.

subsidies

In Austria, the setting-up of E-Carsharing projects is strongly promoted by the provincial administration and the government. This concerns the installation of the charging stations and the purchase of the cars as well as the operation of the E-Carsharing.

For example: For the operation of an E-Carsharing model, the government promotes operating costs of € 450 per saved ton of CO₂.



fig. 3.33

Use of the cars

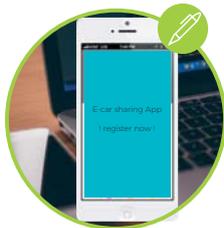


fig. 3.34

become a member

Sign up now to drive our cars flexibly and indefinitely. Enjoy a new possibility of environmentally friendly and cost-saving movement in the Wachau.



fig. 3.36

drive

Use the app to start your rental. And then you can just go to your destination. Furthermore, you can keep your rented car for short purchases, in order to guarantee a trip back after shopping.

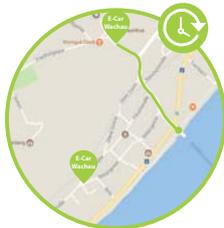


fig. 3.35

look and reserve

With the Wachauer E-Car app, you will immediately know which cars are available in the vicinity. Choose one and reserve it up to 30 minutes before departure. This app also shows the fuel level of the cars. Furthermore, all the available charging stations are located in this app.



fig. 3.37

Park

You can park your rental car free of charge in any public parking area within the designated business area. Preferably, however, the intended charging stations in the municipalities should be used.

fig. 3.33 - E-car & E-bike station

fig. 3.34 - become a member

fig. 3.35 - look and reserve

fig. 3.36 - drive

fig. 3.37 - park

E-Carsharing Wachau...

 ...appeals to that part of the population which is not owning a car, which wants to use the E-car as second car or is dependent on the public transport. As a result the target group is the population in the Wachau at an age from 20-50 years.

 ...is available in the whole Wachau. There will be charging stations and accordingly specially declared parking spots at selected places in the Wachau. At the beginning the plan is to have 18 charging stations and 15 E-Cars. The charging stations should as well be available for usage of private persons. Goal is the connection to the already existing and well working E-Carsharing projects in Lower Austria.

 ...is operated as an E-car to convey a sustainable and eco conscious lifestyle. "Electromobility in connection with intelligent mobility solutions contributes essentially to climate and environment protection"(acc. to E-Carsharing in Lower Austria - successful projects at a glance, 2016).

 ...should be specifically used for the short hauls between the municipalities and in the whole Wachau. (visits, small shoppings, ride to the train station). The E-cars are no means of transportation for p.e. bicycles or other big objects.

 ...are not a competitor of the public transport (bus routes should not be substituted, etc.) The E-Carsharing should more be a supplement for the public transport. The offer of public transportation in the Wachau is limited. An extension of the public transport system is not necessary in our opinion, due to the low demand. Because of that the E-Carsharing should be a new opportunity to close the gaps of the public transport.

 ...should/cannot replace a second car. The cars are meant to be used for particular occasions and not for permanent use. It should not happen that private persons claim the cars only for themselves. However those people can decide to not have a second car and use the E-Carsharing instead. Yet the cars have to be parked at the charging stations. It s not intended to park the cars in the own garage.

3.3.4 E-Bike - Rent, ride and laugh

In Lower Austria respectively in the Wachau exists already one Bike Sharing project called "nextbike". This project is state-subsidised and organized. There are many locations in the Wachau, nevertheless, at a lot of stations the number of available bikes is not enough or all the parking lots are occupied.

The project "E-Bikes -RRL (rent, ride and laugh)" should be a small additional project to the E--Carsharing project. At the charging and renting stations there should also be the opportunity given to rent E-bikes. Basically the E-bike rent is a service for the inhabitants of the Wachau, but tourists as well should have the opportunity to use the bikes. The E-bikes should be compatible with the already existing "nextbike" stations and it should be possible to leave the bikes at the existing stations.

The booking system will be based on the same principle as the E-Carsharing, via internet/ app - get a member - reserve - use. Due to the subventions of the Province of Lower Austria the usage fees are very low. There will be an one-time registration fee of € 15. Furthermore, every first hour of the rent is for free, after that each additional hour costs € 2.

legend:



existing nextbike stations



future e-bike stations

E-Bikes – Rent, ride and laugh

Goals

Opportunity to use new E-bikes in combination with the E-Carsharing system in the Wachau

Stakeholders

Provincial administration Lower Austria, municipalities

Instruments

Private-law contracts

Priority



Timescale



Investment costs



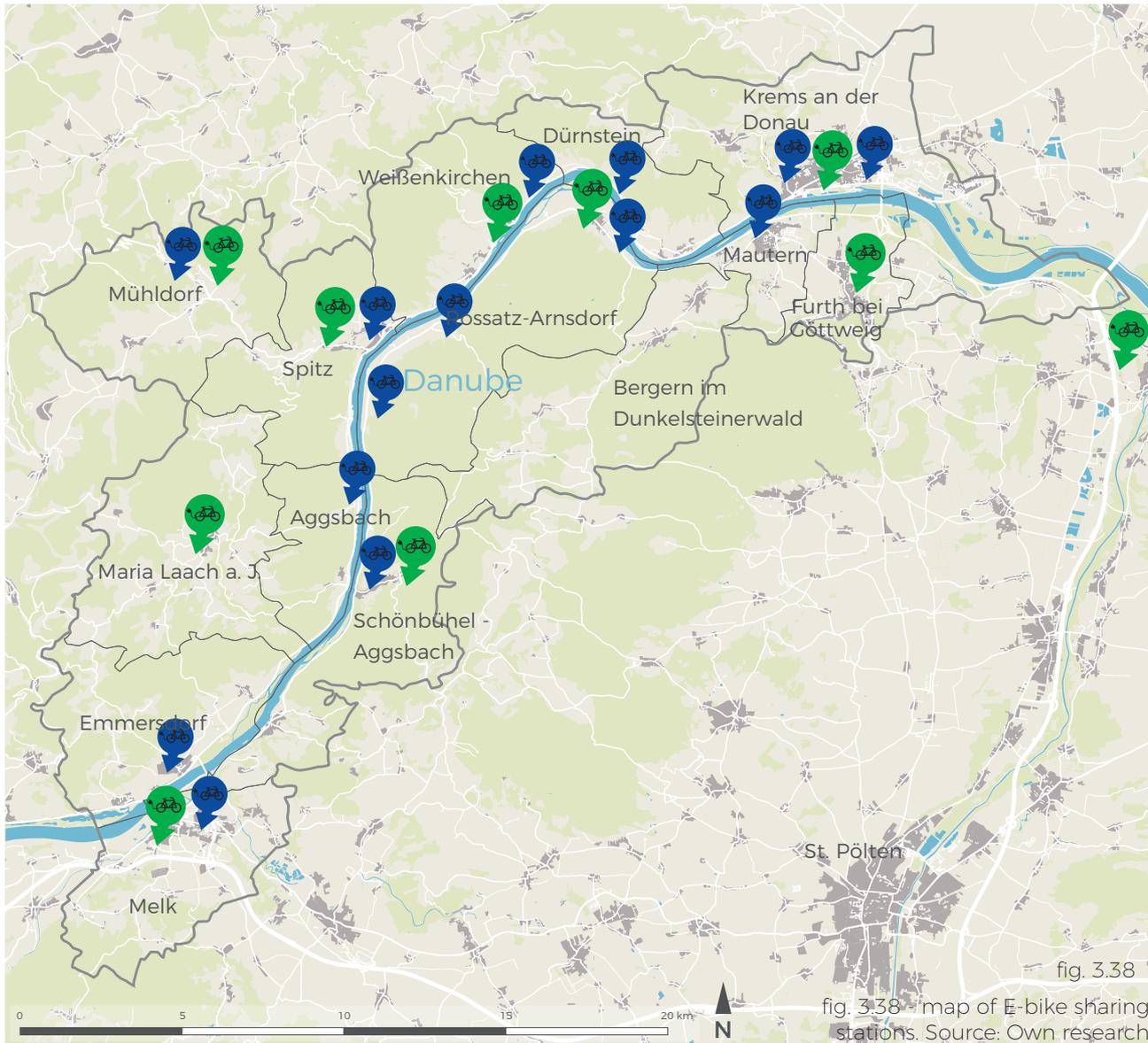
Running costs



Potential of participation



3.3 Establishing Sustainability



3.3.5 Real Estate company Wachau

The Real Estate company Wachau is a private limited (liability) company (Ltd.) and has the goal to operate actively regarding the land policy. The members of the company are the municipalities and banks.

The tasks of the Real Estate company Wachau are divided into two key areas, an active and an advising one.

Active Function

The active function means that the Real Estate company Wachau intervenes directly to control the market development. The main objective is here to create affordable housing in the region. In a first step the company buys free properties, they don't have to be building sites yet but they must be suitable for building constructions. Then the properties are getting parceled and the technical infrastructure is being developed. Afterwards the building grounds are being sold to a moderate price or rent.

The company has the advantage that it doesn't have to work profit-oriented only cost-covering. Through that the building grounds can be sold to a cheaper price.

All the municipalities of the region are part of the Real Estate company, that opens the possibility towards initialing cross-border projects.

The company also builds in the name of the municipalities intergenerational housing and Living-Care-Communities.

Furthermore, the company is responsible for the space management data base, which especially

is important for the project "UNESCO Wachau – BE PART".

In addition they create the concept for possible business locations. The key area of this concept are vacant shops on the ground floor which could be used for start-ups.

Advising Function

The second key area is the advising function regarding the purchase of building sites and the construction of a house.

The three most important advising themes are:

1. Building within the "Wachau Zone"/world heritage zone

The Wachau is a World Heritage site, because of that they have strict building regulations. These regulations especially apply to the "Wachau Zones" which are in the region.

2. Fundings for living or building in the Wachau

The Real Estate company helps to find the right funding for the project.

3. Sustainable land use

The company helps the municipalities with settlement expansions. One of the most important tools for a sustainable development is the so called "Vertragsraumordnung". The "Vertragsraumordnung" is a private-law contract. The municipalities can define special usage

3.3 Establishing Sustainability

and building regulations for a building site. (acc. to Law experts, 2017) The company compiles the pattern for those private-law contracts and advises the municipalities on how and when to use the "Vertragsraumordnung".

Real Estate company Wachau

Goals

sustainable development of the region, creation of affordable housing, intervene in the property market

Stakeholders

municipalities and banks

Instruments

private-law contracts

Priority**Timescale****Investment costs****Running costs****Potential of participation**

3.4

Connecting Generations

3.4.1 Intergenerational housing

Many people would like to live in a common living space in old age, in order not to live alone and to have contact with like-minded people. There are many different forms of housing that enable older citizens to actively shape their everyday life and to support each other.

Shared living models offer the possibility to live in your own dwelling and at the same time in close contact with your neighbours. Daily life is organised together in the house community. Young families, the elderly and the single can benefit especially from shared housing. Intergenerational projects have proven to be particularly viable.

Intergenerational housing projects are characterized by the fact that their residents have deliberately developed a collaborative network. They have agreed on the mutual assistance and the responsibility of the community (usually in the form of a contract) in a group process.

choice of location

In principle, the selection criteria for the location of the intergenerational housing were especially those which had a very high percentage of persons over 65 years as well as a low percentage of under 15 year-olds. Also should the property be centrally located and still provide enough space for several residential units. The connection to a public transport should be good as well as individual traffic, in order to guarantee the mobility of the residents.

Furthermore, the social infrastructure should correspond to the needs and requirements of different generations. This refers, on one hand to the presence of local suppliers, kindergartens and schools as well as on the other hand to pharmacies and banks.



fig. 3.39

fig. 3.39 - image one home

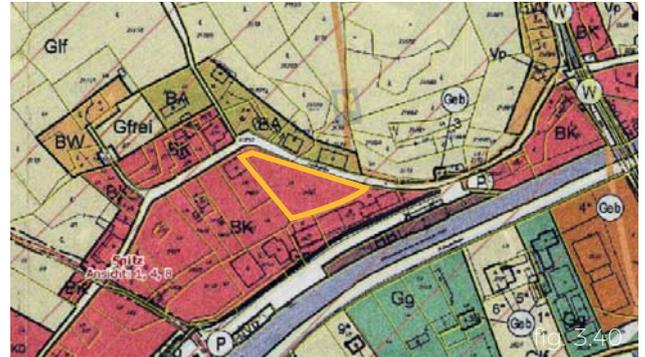
fig. 3.40 - land use plan Spitz

fig. 3.41 - current condition of the property in Spitz

fig. 3.42 - location of the property in Spitz

The location in Spitz is for several reasons very suitable for an implementation of intergenerational housing. With a size of about 2,500 square meters, it is possible to build 6-8 dwelling units. It would also be possible to establish a generational café on the property. This café would serve on one hand as a meeting place for the inhabitants of the house, on the other hand it could be a „gate“ to the community to strengthen the social togetherness in the entire center of Spitz. Further information can be read under point 3.4.2 „Generation Café“. One of the most important arguments for the development on this property is the existing designation as building land - core zone. Furthermore, it is also suitable due to its very close proximity to the train station in Spitz and the future station of the waterbus called RoBoat. Also the connection of the individual traffic is secured, as in fig. 3.52 can be seen. The existence of the ferry guarantees a fast connection to the south side of the Danube.

Referring to the social infrastructure of Spitz, a pharmacy is within only a few minutes' walking distance reachable, as well as a general practitioner. There is also a police station and two banks located in Spitz. A kindergarten as well as a new middle school are settled in the centre and the local supply is served by a bakery as well as a supermarket. It is also in easy reach of many shops, restaurants and nightlife options to offer the possibility of a social life in Spitz.



3.4 Connecting Generations

Location of the property

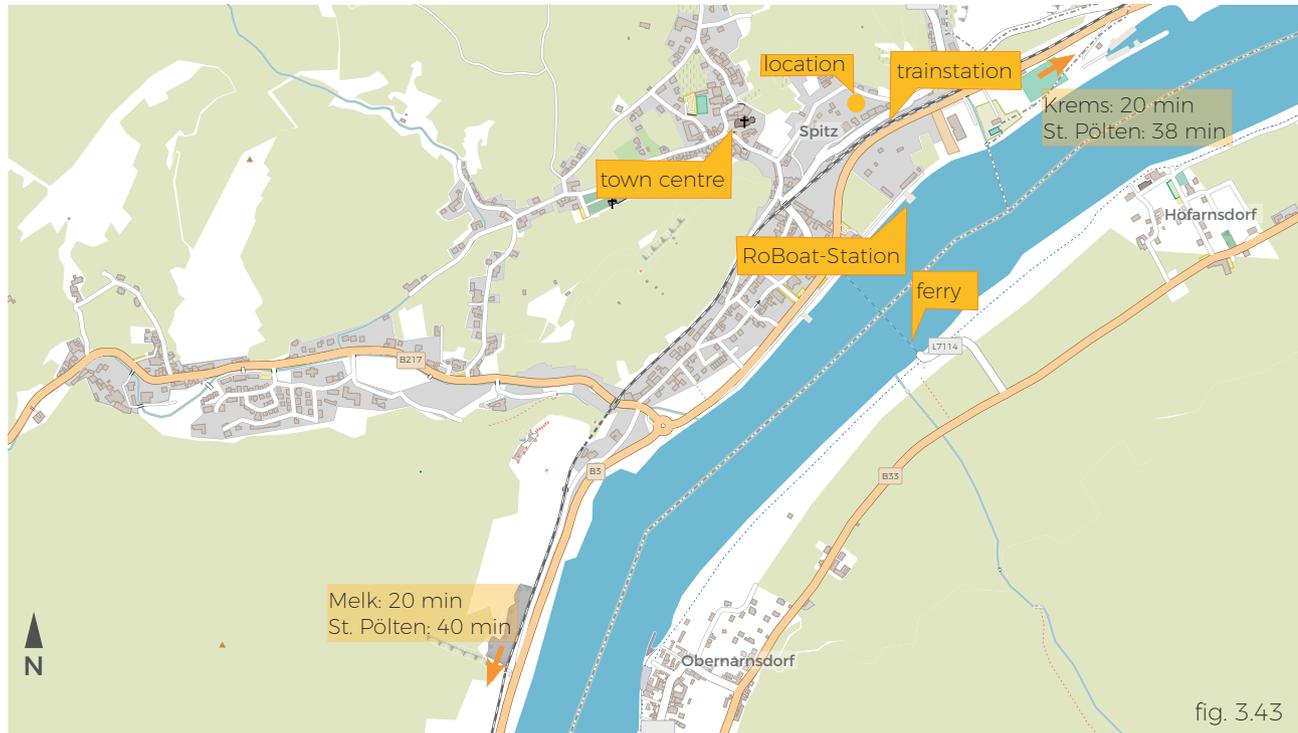


fig. 3.43 - reachability of the property in Spitz

Legal forms

Founding an association

The ideal association is the only legal form that causes hardly any costs, but requires a statute with goal formulations. This is why it is applicable to create an initial fundamental framework for initiatives on their way to a common organized intergenerational housing form .

The association binds members who feel connected to an idea and want to continue to work together.

The association may continue to exist after the formation of a group of subassemblies or the establishment of the final legal form for managing the property. It can bundle the voluntary activities that emerge from the formulated common goal.

Ownership community

The basis of the ownership community is the full financing of one's own residential area and proportionate to the community areas. The ownership community is based on a division declaration, there is property and special property. It is suitable for smaller subassemblies with under ten residential units. For them, the overhead costs of a cooperative society would be rather expensive because they are distributed to only a few households.

Initiatives are usually based on planning private corporations before the ownership community is registered after completion of the construction project.

Cooperative society

The basis of the housing cooperative society is the cooperative law. It stipulates that the statutes are approved by an audit association and that the balance sheet has to be audited annually. Each cooperative society must be a member of a test committee, which ensures regular business advice. The services of the audit association cause costs, which is why a cooperative society is only useful if an economic business is established.

Tenant (or resident) association

Where no equity is available, living space must be rented. This means that the initiative must look for a partner who rents them living space to an appropriate extent. The key difference to a normal housing market is that the group wants to move in together, therefore must be a whole house, a yard or a block of houses available.

In practice, municipal housing companies are a suitable contact. It is ideal if a cooperation already exists during the construction phase. This makes it on one hand easier for the group to find interested parties because the project is very concrete. On the other hand it makes the renting easier for the company because marketing is no longer required. The decisive difference to the day-to-day business of the housing company is that it concludes a cooperation agreement with the initiative: the housing project is looking for the tenants, the company checks the creditworthiness, whereby the residential project must stand for the loss of rental income.

(acc. to www.lzg-rlp.de/de)

3.4 Connecting Generations

Due to the important goal of providing affordable living space on one hand and, on the other hand, to interlink generations, the project's priority is classified as very high. The time horizon of the realization is estimated to be five years, since more steps of organization are required. Depending on the nature of the initiative and legal form, the duration may vary.

The investment costs are estimated to be less than € 500.000. There is also the possibility to request a housing subsidy of the provincial administration of Lower Austria and for a subsidy for owneroccupied homes depending on the type of construction. The running costs are low, but they strongly depend on the organization and the development of the intergenerational housing. It is considered that the project will be financially obtained by its future residents. The potential for participation is very high, as both residents and the population are to be actively

involved in the process right from the start.



fig. 3.44

Intergeneration living

Goals

Affordable housing for all generation, living adjusted to your individual needs

Stakeholders

municipality, provincial administration, Real Estate-Company Wachau, associations, investors, architects, population

Instruments

private-law contract, founding an association, building plan, land use plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



The following idea should be understood as an input for innovative and flexible design scope of intergenerational housing, not as a final measure to be implemented.

The idea is based on the fact that the municipality acquires the property by means of the Real Estate company Wachau, if it is not in municipal possession. The property is now assigned by building rights agreement and therefore future residents only pay a monthly low building rate.

The residential building consists of innovative modules, which could also be called „take-away houses“. This smart, modular prefabricated building can be individually compiled. It can be attached, rebuilt or also removed and thus simply enlarged or reduced. Since it is mobile, it can change its location at any time. This means that the intergenerational housing can be flexibly developed and adapted to the respective future challenges.

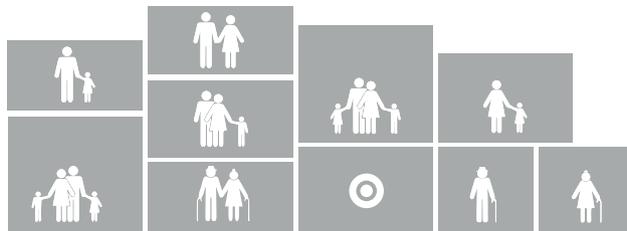


fig. 3.45

fig. 3.44 - rendering intergenerational café
fig. 3.45 - drawing of the structure

Reference „Wohnerei Kusel“

The community „Wohnerei Kusel“ was founded in 2008 and in the end of 2015 finally moved into completely barrier-free apartments. With a property size of about 3.000 square meters in the suburban of Kusel, it offers space for nine residential units. The cooperative society was elected as legal form.

The communal areas include a common room, a bathroom and a laundry room with a total area of 60 square meters. Each resident has to pay a one-time cooperative deposit of € 680 per square meter at the beginning, but the net rent afterwards is only € 4,20 per square meter.

Project development

At the beginning of 2008 there was a group of six people who wanted to implement the idea of the intergenerational housing. In 2009, the number of participants increased to ten and an association was established for settlement. The core group of three families visited other residential projects in 2010, which had already been successfully implemented and took up professional advice. The decision of an architect was made in 2011 and also a real estate agent engaged.

Already at the end of the year, the project-related development plan was approved by the City Council of Kusel. At the beginning of 2012 the purchase contract was signed. In September 2012, a promotion week was held as an information event on the project as well as

intergenerational housing in general. In the end, the future resident group consisted in 2013 of four generations, the youngest 18 months, the oldest being 94 years old. The construction phase began in 2014 and the inhabitants were able to move in 2015. (acc. to wohnprojekt-kusel.de)

Living-care-community

The vast majority of people want to remain in the usual environment when they are in need of care. Therefore, more local alternatives are needed between home and in-patient care.

Residential care communities enable people with support and care needs to live in a familiar home atmosphere according to their individual rhythm of life and personal preferences and needs. Living-care communities offer nearby located support.

In concrete terms, living-care communities can be designed as follows: In a large flat or a house, up to eight or twelve people live together. Each resident has a personal living area, which can be set up according to their own wishes. In addition, the group has also common areas. The centre of one's life is the kitchen, where the residents cook together, do housework and live daily life.

The residents of the living-care community personalise with support their individual living space and determine their daily routine, for example with joint shopping, cooking or walking. Depending on their needs, they can participate actively, simply be there or withdraw into their privacy. As independent tenants, they generally choose who is responsible and takes care for them. It is also decided together whoever joins the living-care community as a new member.

(acc. to www.lzg-rlp.de/de/wohn-pflege-gemeinschaften)

There are different forms of living-care communities:

- living-care community for single elderly people with beginning reduced mobility
- living-care community for the elderly with reduced daily competences (dementia) or care needs, which can no longer be guaranteed with ambulatory assistance at home

It is very important to mention that the concept is based on the following five basic principles: self-determination, life-world orientation, social integration, familiarity, reference care / biography work.

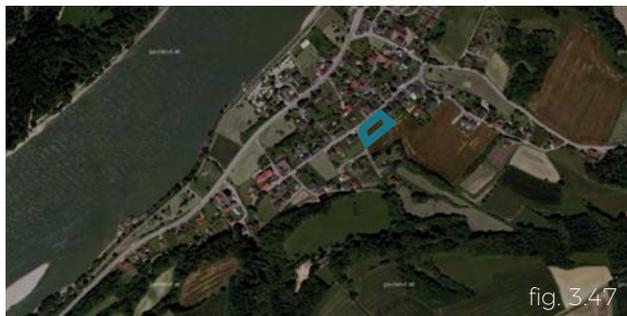
In doing so, existing structures in Austria such as for example Caritas or Hilfswerk should be integrated. The offer ranges from information, advice and support regarding leisure activities, additional services and organizational matters, assistance with the provision of assistance and the organization of medical assistance, assistance with authorities, organization of mobile social and health services or mediation of daily, short-term and transitional care. Also the organization of joint activities, such as a play afternoon, festivals of the year, or trips to educational events (the topics can be chosen according to interest (eg health and well-being, etc.).

3.4 Connecting Generations

Location Schönbühel

The property with a size of about 2.000 square meters is located in Schönbühel-Aggsbach and is already designated as building land. Due to the reduced mobility of the inhabitants, the good accessibility for relatives is particularly important. Especially from Melk, the property is easily reachable in less than ten minutes.

A big factor of a feel-good atmosphere beside the easy accessibility is the personal living environment. It should allow diverse social contacts, friendly neighbors are in particular needed. Also important are the aesthetic environmental conditions such as a stimulating and inspiring building development in the neighborhood and well-kept and usable



open spaces near their home. Greenery and trees in the surrounding area increase the well-being of the inhabitants, awaken the vital forces and joy of living.

Furthermore the ViLiBus, as well as „Deliciose Wachau“ will integrate the living-care community in their stopping places.

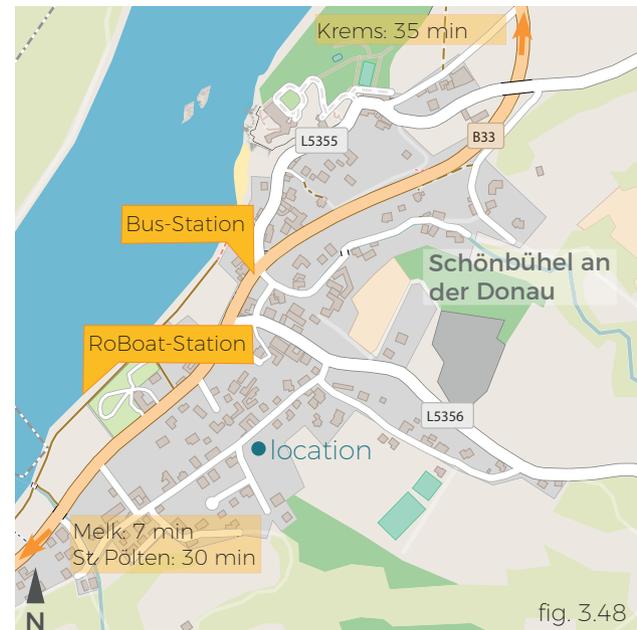


fig. 3.46 - land use plan Schönbühel
fig. 3.47 - location of the property in Schönbühel
fig. 3.48 - reachability of the property
fig. 3.49 - example project progression

project progression

In principle, if there is the wish to set up a living-care community, three key questions should be asked:

1. What kind of living-care community comes into question for our local community? Or is it a different form of housing?
2. What are the wishes and needs of potential residents, but also of potential operators?
3. What structural and human resources are available on site?

The initiative for a living-care community can be based on different initiatives. All have in common that the project only succeeds when stakeholders from different sectors of society work together.

- The affected person initiative
Here, people with care and support needs often decide together with relatives and legal counselors and seek appropriate housing and support arrangements by themselves.
- The builder's initiative
In this initiative are the initiators the real estate owners. They may come from the private or public sector of housing associations.
- The municipality initiative
Here, the impulse comes from the social policy or the building policy of the municipality, for example when a new use is sought for vacated real estates.
- The service provider initiative

The initiative is based on an outpatient service that wants to create a new offer for its customers.

(acc. to www.lzg-rlp.de/de/wohn-pflege-gemeinschaften)

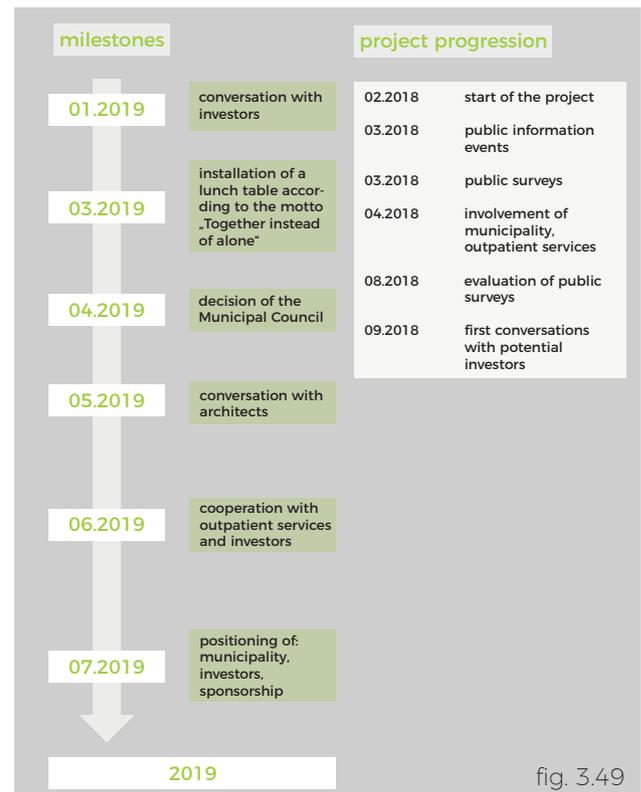


fig. 3.49

3.4 Connecting Generations

In figure 3.64 is a possible project progression outlined. In addition to the municipality and the future inhabitants, or their relatives, also investors, architects and care facilities of the surrounding area are to be included in the planning process. It is particularly important to involve all stakeholders in the discussions from the beginning, as well as to organize public events for information purposes. The development of such a project can take a long time, which should be considered at the beginning of the planning process. Furthermore, a draft agreement between residents, renters and ambulatory care services should be design in the near future. of the project start.

The project is considered to be significant as there is a high percentage of over 65 in the Wachau and a good precaution should be considered as important. The time horizon is set to five years because of the higher organizational effort. Due to possible subsidies from the provincial administration Lower Austria and the EU, the investment costs are estimated to be below € 200,000. It is important to systematically involve all stakeholders and the competent authorities, as well as an organized participation and public relations work.

Living-care-community

Goals

age-appropriate living, combination of inpatient and outpatient care

Stakeholders

municipality, provincial administration, Real Estate-Company Wachau, associations, investors, architects, population

Instruments

private-law contract, founding an association, building plan, land use plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



reference „Marjanns Haus“

In „Marjanns Haus“ in Merkelbach, up to eight elderly people can live together in a converted farmhouse and are able to live a self-determined life. In the living room and in the garden, the common everyday life takes place, into which everyone can contribute. The residents can use a network of voluntary and professional assistance facilities. Each private sleeping and living space has also a private bathroom.

In addition to the private rooms, there is also a common room with a kitchen and a garden for joint creation. The offer is for people with low and middle income.

The development and organization began when Merkelbach 2012 was approved as a village renewal municipality. A future concept for the municipality was developed. Among other things, the aim was a organized neighborhood assistance and shared accommodations for the elderly.

On that basis, a suitable resident building has been found, a responsible care support point was included and the project successfully applied for subsidies from the resources of the village renewal and the LEADER approach. From autumn 2014 until the opening of 2016, the project in Merkelbach was accompanied by „Wohnpunkt RLP“. With this offer, the country supports small rural municipalities in the construction of living-care communities, which are integrated into the village life.

In Merkelbach, „Wohnpunkt RLP“ helped to systematically involve all stakeholders and the

responsible authorities, organized participation and public relations work, and designed patterns for agreements between residents, renters and outpatient care services. Also, further subsidies could be obtained from the housing group programme of the country and a nationwide programme for the further development of new housing forms.

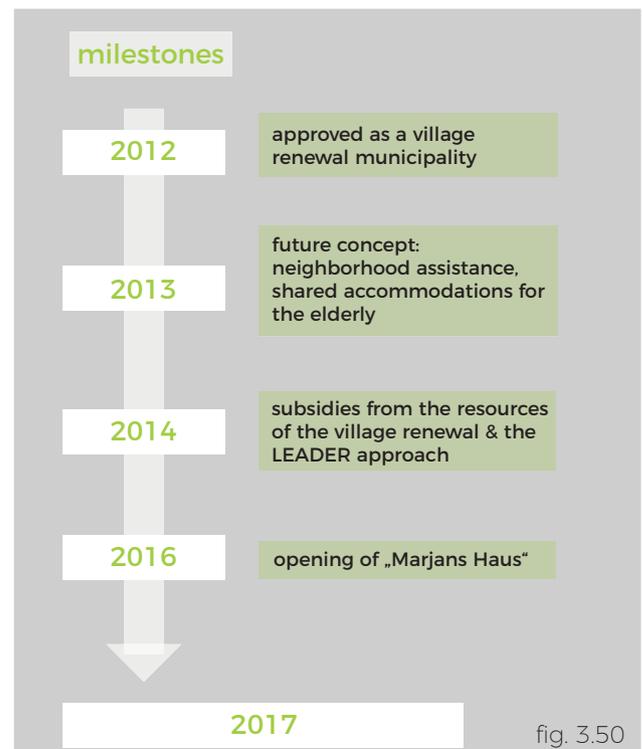


fig. 3.50 - progression „Marjanns Haus“.
Source: www.lzg-rlp.de/

3.4.2 Generation café

In rural areas the percentage of elderly people increases, the Wachau is no exception. (acc. to statistik Austria, 2017) This leads to social problems. For example the elderly generations are often being excluded from the community life. Today it is more important to offer older people an activity-opportunity because the distance to their own family is growing and therefore they have hardly something to do. Additionally retirees count often to the financially weak section of the population (acc. to ORF, 2008)

The Generation café is created to increase the exchange between generations and help elderly people to find an exciting occupation. With this café a new intergenerational place for communication, where generations can learn from each other, is installed. The community life in the municipality could be strengthened due to the project and a social function will be fulfilled. Not only the costumers come from different age-groups but also the staff of the café. Furthermore a main emphasis will be on regional products and meals.

The Generation café is situated on the area where the intergenerational housing is planned, in the municipality "Spitz an der Donau". Due to the intergenerational housing the number of old people will grow and with the café a community space will be build. If the intergenerational housing needs the whole area another opportunity for the Generation café would be to use a near-by vacancy. To get that vacancy or

to find the right place the Real Estate company Wachau will be involved in the process.

The Generation café is a "Social Business". Social Business means in Austria: "Organisations, which aiming a positive impact on society whilst at the same time generating revenues on the market." (acc. to Sozialministerium, 2017)

The legal form of the café is either a non-profit association or a non-profit limited liability company (=Ltd). The main differences in Austria between those two legal forms are explained in the table below.

	non-profit association*	non-profit Ltd**
number of persons	at least two persons	no requirement
initial capital	no requirement	€ 35.000
profit-oriented	working economically is limited	profit-oriented is possible
liability	association (assets)	managing director
company reporting	cash basis accounting	Double-entry bookkeeping

*(acc. to WKO, 2017)

** (acc. to BKS Steuerberatung, 2017)

A well-known example for such an intergenerational café is the “Vollpension” in Vienna. First the “Vollpension” was a Pop-Up Store, but after its glory it became a permanently café. (acc. to Kurier, 2015)

As the project box shows the investment costs are high, this is also because the building must be constructed first. However, to make sure that the project can still be realized there are development funds. For example the LEADER region Wachau-Dunkelsteinerwald is supporting such projects under the action field three “Strengthening of the structures and functions for the population”. (acc. to LEADER Region, 2017)

The running cost contains staff expenses, operation costs and product costs, but they should be covered through the income.

The timescale is the same as at the intergenerational housing because the Generation café is integrated into it.

The potential of participation is given because the opening hours and the menu card are developed together. And the successful implementation of the Generation café is also depending on a participation mix of young and old people.

Generationcafé

Goals

Intergenerational integration, create a place for exchange, strengthen social cohesion, create a new field of activity

Stakeholders

Municipalities, provincial administration, association, local media, LEADER, population, social institutions

Instruments

Founding an association, private-law contracts

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.4.2 VILI BUS (Vital Living Bus)

The elderly population in the Wachau is, due to the very limited offer of the public transport and the long distances between the town centers, in its mobility limited. Those people barely have an opportunity to undertake any activities or to do their daily shopping by themselves. The standard of living would be raised sharply if there was an opportunity for those people, so they don't bounded to stay at home.

One problem-solving approach for that would be, like it is already existing in other rural communities in Austria: an activity-bus for the elderly population. The ViLi bus (Vital Living) is operated and maintained by social organisations like p.e. the red-cross or other aid agencies. Additionally this project shows a high added value.

The bus routes are arranged in a way that people living at home as well as in care facilities get picked up and are brought to the particular destinations for the day so they can do their activities and run their errands. With minivans the people get picked up at home, according to the programmes at different times of the day, and are brought back as a matter of course to their homes afterwards.

ViLi bus – Vital Living bus for the elderly population in the Wachau

Goals

Means of transport for the elderly population, which is no longer able to move around on their own

Stakeholders

Red Cross, social institutions, local media, Provincial administration Lower Austria

Instruments

Private-law contracts

Priority**Timescale****Investment costs****Running costs****Potential of participation**

The following timetable shows an example of the ViLi bus programme in the Wachau region:

Day	Activity	Timetable
Monday	shopping in Krems/Melk	08.30 - 10.30 am
Tuesday	shipping on the Danube	in the afternoon
Wednesday	visit to the doctor	in the morning
Thursday	walking tour and dinner at a „Heurigen“	17.00 - 20.00 pm
Friday	shopping in Krems/Melk	08.30 - 10.30 am
Saturday	-	-
Sunday	-	-

fig. 3.51

fig. 3.51 - example of a ViLi bus timetable

3.4.4 SeniorTrainer

This project idea has its origin in Germany, where the project is already successfully implemented. Older people (Seniors) bring their experiences and competencies voluntarily in a self-chosen area and pass on their diverse knowledge from different life contexts to others (Trainer). The SeniorTrainers are committed to building bridges in the community at very different age levels and areas of activity.

They organize, for example, a student's day table in intergenerational housings, or ecological excursions. They could support young people in their career choice, engage themselves with migrants or give language lessons.

Each year 50 additional seniorTrainers are qualified in cooperation with local points of contact, such as senior citizen offices, volunteer office, intergenerational housing or clubs. They support people, who are looking for a voluntary

commitment field, in which they want to contribute their competencies. The project is funded by the German Ministry of social affairs of Rheinland-Pfalz (acc. to www.seniortrainer-rlp.de/).

This project could contribute to connect generations and to integrate people of different age levels in the Wachau.

Important stakeholders are the Austrian Ministry for social affairs, the provincial administration of Lower Austria, as well as representatives and decision-makers from business, associations and organizations. However, most important stakeholders are the elderly people who bring in their experiences and competencies.

The investment costs and the running costs are very low, because the project works on a voluntary base.

seniorTrainer

Goals

Connecting generations, integrate people of different age levels

Stakeholders

Ministry for social affairs, provincial administration, representatives and decision-makers from business, associations and organizations, population

Instruments

private-law contract

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.4 Connecting Generations

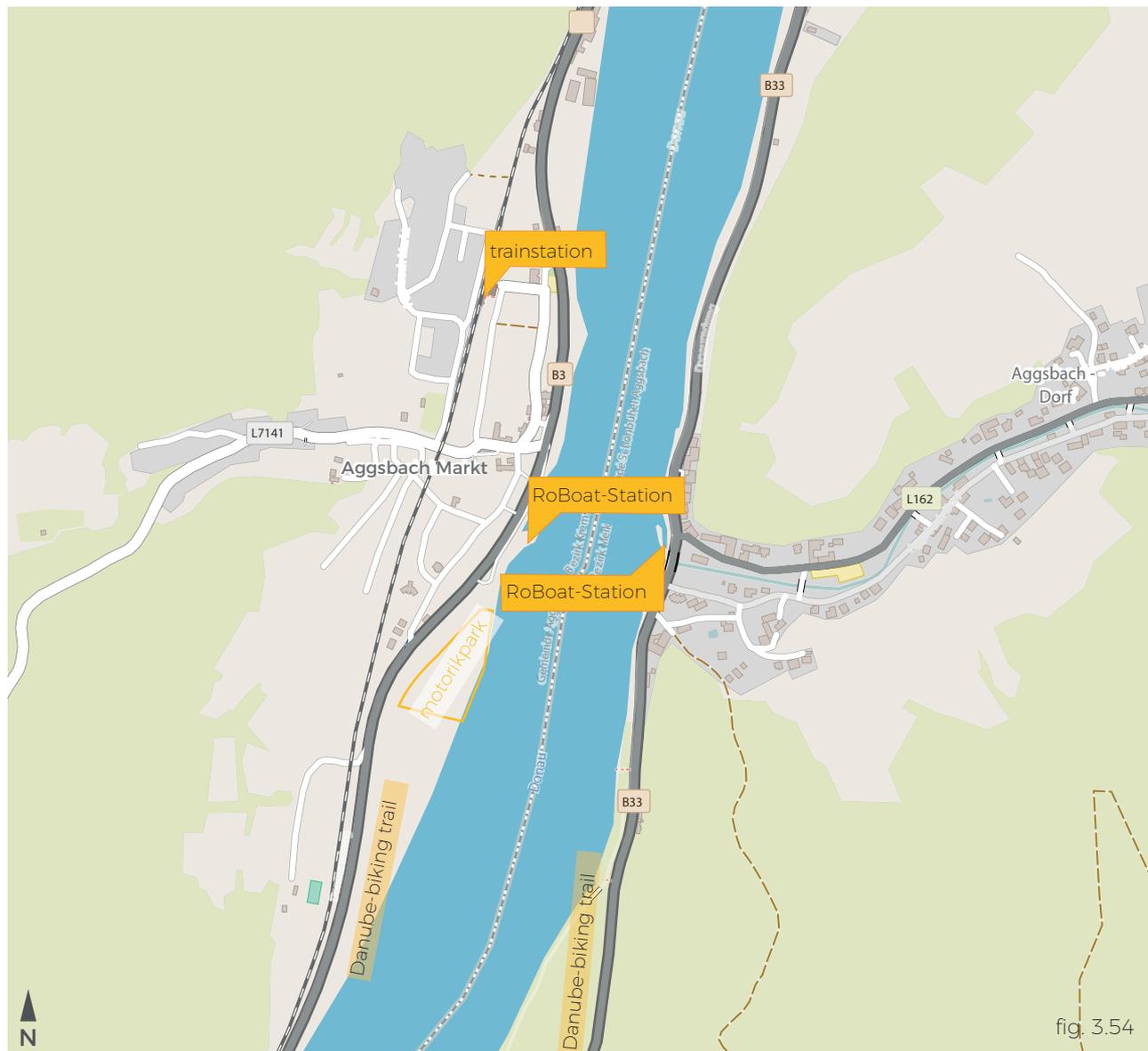


fig. 3.54

Current conditions:



- fig. 3.52 - location in Aggsbach-Markt
- fig. 3.53 - land use plan Aggsbach-Markt in detail
- fig. 3.54 - reachability motorikpark Aggsbach-Markt
- fig. 3.55 - playground Aggsbach-Markt
- fig. 3.56 - look from the playground on the riverbank
- fig. 3.57 - look on the river bank

3.4 Connecting Generations



fig. 3.58

In the design plan, which can be seen on the left, the motorikpark is divided into five sections. The motorikpark itself takes up the most room with 2,000 square meters. It is located in the north of the property and will contain around 40 devices. Parking spaces are also provided in the immediate vicinity in order to increase the frequency. However, in principle the users should be encouraged to resort to the Danube bike trail as well as the public transport, which are in the immediate vicinity (as can be seen in fig. 3.54). In order to create a gentler transition, the area is to be graded towards the shore, opening up the view of the Danube. It should be maintained in their natural state and the pebbly beach in the current state.

Next to the motorikpark should be located on one hand a barbecue and leisure area, where recreation seekers can linger. On the other hand, a large area for sunbathing will be added to provide enough space to rest and have a wonderful view on the Danube. In the direction of the river bank will be a children's playground. It is intended to offer a natural and versatile scope and water access with playful elements.

Two beach volleyball courts as well as a natural grass football field are to round off the offer. All in all, the intension is to create a versatile space for all generations to exchange and interconnect with each other.

Future impressions:



fig. 3.58 - design plan motorikpark Aggsbach-Markt

fig. 3.59 - example playground

fig. 3.60 - example barbecue area

3.4 Connecting Generations

If the motorikpark stand the test and is well received, there is the possibility to create an additional motorikpark in Schönbüchel on the Danube especially for the local population. It offers a beautiful view on Schönbüchel castle and with a property size of approximately 3.500 square meters the area offers an ideal opportunity to build a motorikpark near the center. Due to the deliberately chosen location

on the river bank, a water access is available and makes the Danube accessible to the population. Furthermore, in the immediate vicinity of the location public transport is through a bus station as well as a RoBoat station available. Also the Danube biking trail leads directly past it. With a journey time of only seven minutes you are quickly in Melk. Also Krems and St. Pölten are in about 30 minutes in reach.



fig. 3.61



fig. 3.62



fig. 3.63

The priority of this project is rated as high, as it is considered an unique opportunity to combine generations through movement and bring together different types of population. Also, the population is encouraged by playful movement to contribute to a healthy life. The implementation would be possible within the next three years. The investment costs are a little bit higher, as the design and equipment are expensive. However, there are EU subsidies that could be used offered by the LEADER programme. Looking further at the cost-effective aspect of tourism, the amount of costs is also weighed down. The running costs are quite low, as only the maintenance is to be guaranteed. The contribution potential of the population is low, but it can be integrated into the site selection as well as the design of the area.

fig. 3.61 - reachability motorikpark Schönbühel
 fig. 3.62 - view on the castle of Schönbühel
 fig. 3.63 - current condition of the property in Schönbühel

Motorikpark Aggsbach-Markt

Goals

Connecting generations, exercises and healthy life for every age level, revaluation unused space

Stakeholders

municipality, provincial administration, associations, population

Instruments

building plan, land use plan

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.4.6 Drive&Talk

Thanks to a growing awareness of the fact that access to resources is just as valuable as their possession, platforms for the search of passengers are gaining in importance.

By sharing, one can use objects that others own and offer. This makes resources more efficient. Through the internet one is not limited to neighbors. We can use a global network to find the right items or services

This usually saves not only the wallet, but also the environment: you no longer need to own your own car. Instead, you borrow items for a short time, for the time you need them.

Users of Drive&Talk can offer other members a ride in their car or search for a ride for themselves. Drivers who plan a car trip can offer their free places, indicating the distance and the price to other members. Interested car passengers contact the drivers. They then travel together and afterwards the car passenger pays the driver a cost participation. Drive&Talk offers a price for every car passenger, but drivers can change this to their own will, also for partial routes. However, to ensure that the drivers can not make any profits through their service, the prices are capped per trip.

With Drive&Talk, all users have a personal user profile. This should help to find suitable drivers and/or car passengers and to be able to assess the trustworthiness of members better. The members can upload photos of themselves and provide data such as age, music taste and other

The image shows a screenshot of the Drive&Talk website. At the top, there is a navigation bar with the text "arrange a lift - Drive&Talk" and a search bar. Below the navigation bar, there is a main heading "Get life into your car!" with a subtext "Travel together - share the costs of your journey and meet interesting people." and buttons for "Register" and "Login". Below this, there are search fields for "from...", "to...", and "date", along with a "find drive!" button. The main content area is divided into two sections. The first section is titled "How Drive & Talk makes you happy:" and features three icons: a door, a car, and a lightbulb, with labels "Door To Door Drive", "Meet Interesting People", and "Learn New Things While Talking" respectively. The second section is titled "Drive & Talk is really easy - that's how it works:" and features three circular icons: a map, a smartphone, and a car, with labels "Offer or search for a ride at DT: Start, Destination, Time, Ready To Go!", "DT will automatically find someone with matching journey data in your area", and "Choose With Whom You Want To Travel. Travel Together And Rate The Drive Afterwards". At the bottom, there is a green banner with the text "Especially For Our Users Well Advanced In Years: Call +43 2843/459872 And Our Colleagues Will Gladly Organise The Trip For You!"

fig. 3.64

interests.

Particularly for elderly persons the option is offered to inform about possible rides and book a suitable one afterwards by means of a telephone service. Thus, it is also possible for people without internet access or smartphone to use these services.

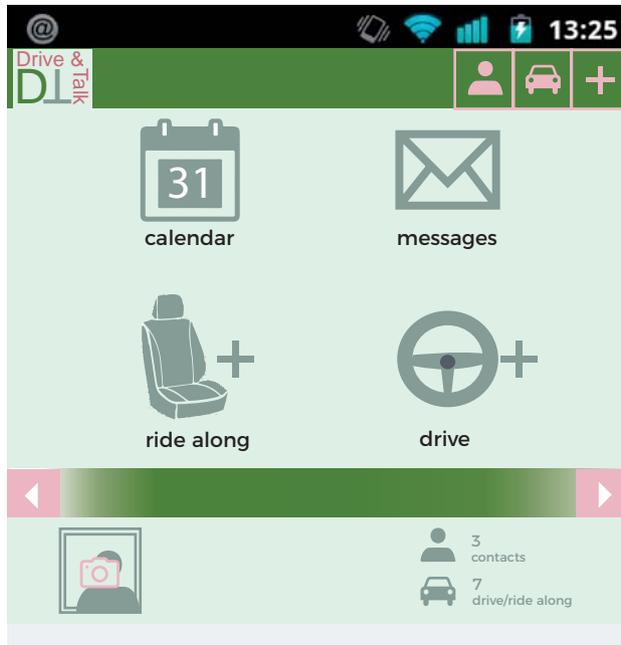


fig. 3.65

The priority of the project is assessed by two points, as it would be an useful addition to public transport and a way to integrate resources more efficiently. However, other projects are privileged. The project would be implemented quickly, an association would have to be established, as well as an Internet platform and an app to be initiated. These mentioned things also form the investment costs. The running costs are only the payment of the employees in the call center, unless the association decides to do this on a voluntarily base. The potential for participation is very high, as the association is to involve the inhabitants intensively in the process of compilation and implementation.

fig. 3.64 - rendering Webpage Drive&Talk
fig. 3.65 - rendering App Drive&Talk

Drive&Talk

Goals

bundling resources, establish sustainable mobility options.

Stakeholders

municipalities, provincial administration, associations, population

Instruments

private-law contract, founding an association

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.4.7 UNESCO Wachau - BE PART

The rural areas in the Wachau have to fight with migration especially of young people and with obsolescence. The main reasons are the economic situation and the property market.

The economy of those rural areas is being predominated by two sectors: On one hand the agriculture, in particular vineyards and orchards (apricots), and on the other hand the tourism. The tourism is seasonal and takes place from spring till autumn.

The workplace situation shows that in the municipalities there is a lack of workplaces, except for "Mautern an der Donau" as well as the touristic municipalities "Spitz an der Donau", "Dürnstein" and "Weißenkirchen".

Due the status as World Heritage region and the transport connection it is hardly possible to settle large enterprises in this region. Therefore vacant business premises are very important, but passing on and finding a subsequent use for those premises is difficult. (acc. to LAG Wachau - Dunkelsteinerwald, 2015, p. 3-5)

To establish new businesses like small or medium companies or Start-Ups in the Wachau, it would need a multisectoral network together with a cooperation network.

Another reason for the rural exodus is the difficulty of finding a suitable place to live. Due to the expensive property market and the high expenses and expenditure of time which comes along with the search.

For a livable Future in the Wachau

To make the region livable for the future it is important to offer the next generations and immigrants a perspective for living in this area. This is the goal of the project "UNESCO Wachau – Be Part". "UNESCO Wachau – BE PART" is a website which shows the potentials of living and working in the Wachau and offers networking opportunities.

The platform can be divided into five segments:

1. „find a working place“
2. „get a space“
3. „become a successor“
4. „create a Start-Up“
5. „better together – ask next door“

The field "**find a working place**" is a job market. With this the exhausting search for a job is getting easier and the costs for employers to advertise their work places are low. This page also offers a list of all employers of the region with a short description, which helps jobseekers to get an overview over the companies of the Wachau. In addition there is the possibility to upload a speculative application, which will be send automatically to all suitable companies.

"**Get a space**" is a space management data base and is run by the Real Estate company Wachau. The space management data base is divided into two different areas, one for search and one for offering a space. It also contains two types of space, living space and commercial space and provides vacant buildings as well as building



fig. 3.66 - Homepage of the website

fig. 3.66

3.4 Connecting Generations

sites. The data base offers private persons as well as municipalities an overview of the existing free spaces. This can help the municipalities to use the vacancy and develop the settlements sustainable. For private persons "get a space" is a cheap and easy way to get an insight into the Wachauer property market.

Besides managing the data base the Real Estate company Wachau is also responsible for advising interested people regarding the regulations for building works in the Wachau and existing development funds.

As a completion to the job market "find a working place" and the data base for commercial spaces "get a space", there is the field "**become a successor**". Employers without a successor can here offer their companies for interested third parties, who would like to take over. Thereby existing structures are being preserved and further developed.

With "**create a start-up**" young employers are being supported by founding their new businesses. The goal is to increase the value creation of the region and to improve the diversity of the economic situation in the Wachau, details can be seen under the point 3.4.8 „Start-up Initiative“.

The area "**better together – ask next door**" is a network platform for the inhabitants and neighbors to provide help for each other. Today not only immigrated persons find it hard to get integrated into the community life. Through

the increase of cocooning the community life disbands also in rural areas. "Better together – ask next door" is trying to counteract this development. Neighbors are getting linked to each other, the mutual exchange is being supported and thus the community life will be strengthened. (acc. to Standard, 2015)

In addition to these five segments the website also informs about current news and events under "**What's going on?**" and general information about the project, the region and the association behind it.

The Website is operated by the association "UNESCO Wachau – BE PART". The association is composed of the Real Estate Company Wachau, AMS Krems and Melk (Public Employment Service), the municipalities, WKO Krems and Melk (Austrian Economic Chambers), Donau Niederösterreich Tourismus GmbH with the Regionalbüro Wachau-Nibelungengau, LEADER region Wachau-Dunkelsteinerwald, Sparkasse and Raiffeisenbank. Furthermore, resident companies as well as committed inhabitants can participate.

A reference for this project is the project in the region Pinzgau "Komm-bleib". This website is similar to the structure and the content. However, there the focus is primarily set on economical interests. (acc. to Verein Komm bleib, 2017) The project runs since over one year and has positive effects on the region. (acc. to WKO, 2017)

UNESCO – Be Part of WACHAU

to achieve our Wachau Services behind it contact

commercial space

search for offer

living space

location or postcode characteristic feature

typ of space ✓ size ✓ legal form ✓ price range ✓

living space
Building Site
location: Schönbühel
size: 1.579m²
[>>>more](#)

living space
Accommodation
location: Stein
size: 1.421m²
[>>>more](#)

living space
Flats or Houses
location: Hofarnsdorf
size: -
[>>>more](#)

living space
Shop
location: Aggsbach
size: 70m²
[>>>more](#)

fig. 3.67

fig. 3.67 - „get a space“ website

3.4 Connecting Generations

The investment costs for the project "UNESCO Wachau – BE PART" are very high with around € 400.000. Besides the programming of the website, a big part of the money must be invested in the production of the space management data base. However, at the reference project "Komm-bleib" the LEADER region financed 60%. (acc. to LEADER region Saalachtal, 2017) It is very likely that the LEADER region Wachau – Dunkelsteinerwald would also support this project. Lower Austria is also supporting financially actions on stopping the rural exodus.

The running costs includes the support of the website, an advising function and help for interested parties and promotional activities.

Website „UNESCO Wachau - Be Part“

Goals

Prevent migration in rural areas, sustainable invigoration of the region in the areas living and working

Stakeholders

Municipalities, AMS Krems/Melk, WKO Krems/Melk, Real Estate Company Wachau, Donau NÖ Tourismus GmbH, LEADER, Sparkasse and Raiffeisenbank

Instruments

Space management database, founding an association

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.4.8 Start-up Initiative

The start-up initiative is part of “create a start-up”, which is already mentioned above and is integrated in the “UNESCO Wachau – BE PART” website. Supporting start-ups is one possible and very important approach to improve the economic situation in the region. Therefore the Wachau has its own start-up initiative, which contains a concept for possible business locations, a “Young talents camp” and an innovation and promotion offensive.

The precondition to realise this start-up initiative in the Wachau is to support the development of digitalisation in this area. To realise the idea, the basis is a fast internet connection, namely broadband internet. During the last years Lower Austria started to further develop the broadband internet connection in rural areas. The goal is to have covered in 2030 the whole Lower Austria with a fast internet connection. Lower Austria developed therefore its own strategy „Modell Niederösterreich“. Through „Modell Niederösterreich“ the passiv infrastructure for a broadband connection is being established. Afterwards the infrastructure is being rent to network operators like A1. It is likely that the Wachau will have a broadband connection to its disposal within the next years. (acc. to provincial administration Lower Austria, 2017)

The Start-up initiative is being operated by the association “Wachauer Start-ups”. The members are committed inhabitants, the WKO Krems and Melk (Austrian Economic Chambers), the

municipalities and Austrian start-ups, the Real Estate company is a participant but not involved in the implementation.

One important part of the start-up initiative is that there are spaces for the start-ups. The concept for possible business locations is being developed by the Real Estate company Wachau and mostly contains vacant shops or flats which could be used for start-ups. The concept has also the goal to use the space in the Wachau sustainable. The association is responsible for the contact between the property owners and the interested start-up founders. However, the initiative does not only help the start-up founders to find a suitable work place. Another point is the “Young talents camp”, which has the goal to support the start-ups with knowledge. The “Young talents camp” are workshops which are focused on different subjects like how to finance a start-up, ways to realise it etc. These workshops take place periodically and will be held by different experts and are organised by Austrian start-ups and WKO. (acc. to LEADER region Murtal, 2017)

The third part of the start-up initiative is the promotion. To get start-ups in the region it is very important to recruit innovative people and to establish the Wachau as a start-up region. The association “Wachauer Start-ups” will be responsible for the common promotion strategy.

3.4 Connecting Generations

The project box shows that the investment costs are high especially because of the implementation of the region as a start-up region. The running costs are reduced to promotional activities. The start-up initiative offers no possibility for a participation during the development of the project.

Start-Up Initiative

Goals

Improve regional value added, consult and support (young) entrepreneurs by realize Start-Ups, building a network, knowledge transfer

Stakeholders

Local companies, representatives from business associations, WKO Krems/Melk, schools and higher educations

Instruments

Broadband network development, private-law contracts

Priority



Timescale



Investment costs



Running costs



Potential of participation



3.5

Epilogue

3.5.1 Time horizon

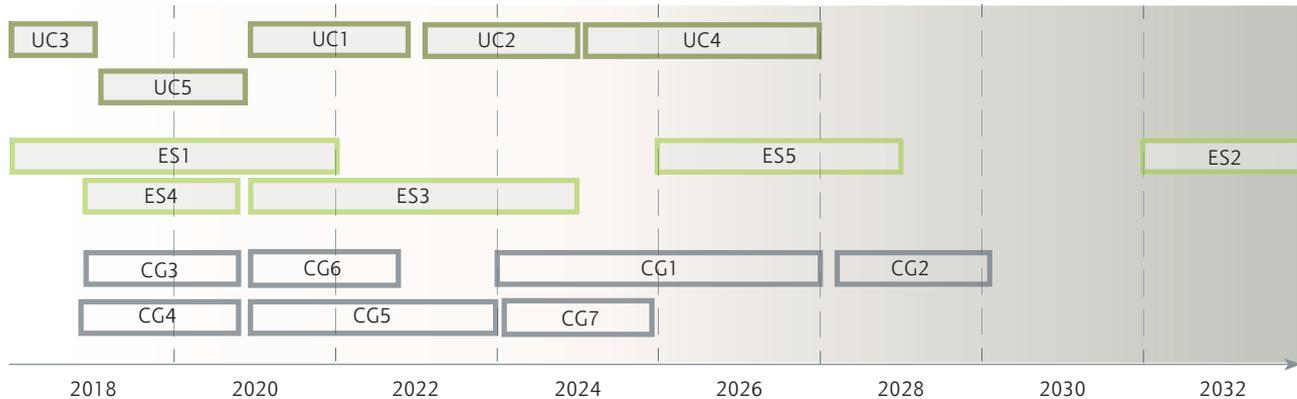


fig. 3.68

fig. 3.68 - time horizon

Understanding Cultures

UC1	UNESC(H)OOL exchange programme
UC2	Wine and apricots go school
UC3	WHD - World Heritage Day
UC4	Renaissance Hinterhaus
UC5	Sustainable package

Establishing Sustainability

ES1	Delicious Wachau
ES2	Roboat Wachau
ES3	E-Carsharing
ES4	E-Bike
ES5	Real Estate company Wachau

Connecting Generations

CG1	Intergenerational housing
CG2	Generation cafe
CG3	ViLi bus
CG4	seniorTrainer
CG5	Motorikpark
CG6	Drive and talk taxi
CG7	Wevbsite UNESCO Wachau - Be Part

Most of the measures can be implemented in a shorter time. For example, the World Heritage Day organization is expected to take only one year. Others need longer to be implemented due to their organizational complexity and the bureaucracy. Specifically, ES2 RoBoat can only be realized in the distant future and reflects only an

estimate time horizon as it can not be estimated how long the development of the technology actually will take. Nevertheless, we believe it is important to include also futuristic projects to provide input for further developments in general.

3.5.2 Conclusion

Within the framework of the project „DANUrB | Danube Urbanbrand“ , we had the opportunity to apply our previously acquired knowledge from Bachelor's and Master's studies in an Interreg project of the EU. The processing of the Danube region in the Wachau was quite time-intensive and challenging. It was necessary to decide between different ideas, approaches for solutions, strategies and wishes, and to develop a concept for the Wachau as well as for the entire Danube region by joint consideration and discussion.

The main problem in the Wachau is, in our opinion, the demographic change as well as the exodus of the population from rural areas. With the UNESCO Wachau project, we tried to make the Danube region in the Wachau more sustainable and to enable all generations to have a good living standard. In conclusion, we hope that with our result we have contributed a helpful input for the future development of the Wachau.

Especially the cooperation with students from other universities along the Danube was very important. Furthermore, the comparison of the procedures in the project development and also the comparison of the final results were very interesting and instructive. We hope that some of our ideas and proposals for solutions, which are designed to strengthen and improve the Danube region, will be incorporated and possibly some of the projects will be implemented.

0.5

Final Epilogue

0.5.1 Final conclusion

All three groups worked on different solutions and ideas for the Wachau region.

However, would the three projects work as one single strategy for the Wachau? Probably not.

The common understanding that underlies all our ideas can be summarized with the following points:

- Projects should arise from local potentials, use local knowledge and promote local economic cycles
- Projects should encourage people of all ages in the region to get more involved in their communities
- Projects should promote mobility that is not dependent on private cars
- Projects should preserve/create liveable and healthy environments for future generations
- Projects should preserve/treasure traditional customs

We worked on different scales (on regional scale and on community level) and our plans covered both soft and heavy measures.

Some problems may be solved on a community level, but most mobility problems require a solution on a regional scale.

Could this approach work for all regions along the Danube?

From the cooperation with students from four different countries (Austria, Hungary, Serbia and Slovakia) we learned, that sometimes similar situations don't necessarily lead to similar solutions. Different needs or stages of development lead to different solutions!

To create new projects it is necessary to find the natural and cultural specifics of a region.

Despite the different regional cultures the project DANUrB wants to connect all countries along the Danube through building a promenade.

A promenade can either represent a build connection or in this case a link/connection between people who share projects and ideas, learn from each other but also maintain and cultivate the differences and peculiarities worth preserving.

After only a few months in the DANUrB project, our experience during the workshops with the other students shows that the idea of the promenade works!

0.6

List of references and figures

0.6.1 References

Akademie für Naturschutz und Landschaftspflege, 1991:
Begriffe aus Ökologie, Umweltschutz und Landnutzung. Information 4. Laufen, Frankfurt.

BMLFUW, 2017:
BMLFUW, Nachhaltige Entwicklung, 2017. URL: <https://www.bmlfuw.gv.at/umwelt/nachhaltigkeit/nachhaltigkeit.html>, retrieved on 04.07.2017

bpb, 2017-1:
Bundeszentrale für politische Bildung, Was ist Bildung?, 2017. URL: <http://www.bpb.de/gesellschaft/kultur/zukunft-bildung/145147/was-ist-bildung>, retrieved on 21.06.2017

bpb, 2017-2:
Bundeszentrale für politische Bildung, Vielfalt der Kulturbegriffe, 2017. URL: <http://www.bpb.de/gesellschaft/kultur/kulturelle-bildung/59917/kulturbegriffe?p=all>, retrieved on 21.06.2017

Cambridge Dictionary, 2017:
URL: <http://dictionary.cambridge.org/>, retrieved on 21.06.2017

Duden, 2017:
URL: <http://www.duden.de/rechtschreibung/Landschaft>, retrieved on 04.07.2017

DUK et al., 2017:
DUK: TU Wien, 2017: Report. Process, agreements and deliverables of the on-site research camp Krems (06. - 10. March 2017 at DUK). Edited by DUK and TU Wien, http://www.interreg-danube.eu/uploads/media/approved_project_output/0001/04/6ad3784d93c19f2ef3a71b40702fd4f881acfe23.pdf, retrieved on 07.07.2017

Interreg-DANUrB, 2017:
Interreg-Danube Urban Brand - <http://www.interreg-danube.eu/danurb>, 07.07.2017

Kühn, 2008:
Kühn, Manfred, 2008: Strategische Stadt- und Regionalplanung. In: Raumforschung und Raumordnung 3/2008, Bonn, S. 230-243.

Nachhaltigkeit.de, 2017-1:
Nachhaltiger (sanfter) Tourismus, 2017. URL: https://www.nachhaltigkeit.info/artikel/nachhaltiger_tourismus_1756.htm, retrieved on 04.07.2017

Nachhaltigkeit.de, 2017-2:
Nachhaltigkeit Definition, 2017. URL: https://www.nachhaltigkeit.info/artikel/definitionen_1382.htm, retrieved on 04.07.2017

Oxford Dictionaries, 2017:
URL: <https://www.oxforddictionaries.com/>, retrieved on 21.06.2017

Spektrum, 2017:

Spektrum, Tourismus, 2017, URL: <http://www.spektrum.de/lexikon/geographie/tourismus/8175>, retrieved on 04.07.2017

UNESCO, 2017:

UNESCO, Cultural Diversity, 2017, URL: <http://www.unesco.org/new/en/social-and-human-sciences/themes/international-migration/glossary/cultural-diversity/>, retrieved on 21.06.2017

Wheeler, 1998:

Wheeler, Stephen, 1998: Planning Sustainable and Livable Cities. The City Reader, New York.

Wirtschaftslexikon Gabler, 2017:

Tourismusmarketing, 2017, URL: <http://wirtschaftslexikon.gabler.de/Definition/tourismusmarketing.html>, retrieved on 04.07.2017

Zukunftsinstitut, 2017:

Megatrend Wissenskultur, 2017, URL: <https://www.zukunftsinstitut.de/dossier/megatrend-wissenskultur/>, retrieved on 21.06.2017

Mission [ˈmɪf(ə)n] Possible! Living in the Wachau

Aerial Photos, 2017: Google Image-Search www.google.at/images .

http://static7.bergfex.com/images/downsized/5a/5e6ef143447a765a_86a47e9dda197b0c.jpg

<https://www.laglers.at/sites/default/files/seitenfotos/005.jpg>

https://d18kph3kha5vuu.cloudfront.net/files/9074422/spitz-sommer01-16_1486568671420-fix.jpg

<https://www.google.at/maps/place/Bahnhof+Spitz+an+der+Donau/@48.3651868,15.4151347,17z/data=!3m1!4b1!4m5!3m4!1s0x477289a75b5abdf7:0x3d59d9ad5801f962!8m2!3d48.3651868!4d15.4173234>

<https://www.dreamstime.com/royalty-free-stock-images-spitz-wachau-austria-danube-river-image35758459> , retrieved on 06.07.2017

Fed. Office of History Monuments, 2014: Bundesdenkmalamt 2014: Denkmal, Pflege, Forschung, Schutz, Vermittlung, Wien, p. 7, 10. https://bda.gv.at/fileadmin/Dokumente/bda.gv.at/Publikationen/Informationen/BDA_Imagebroschuere.pdf , retrieved on 10.07.2017

Gedesag, 2017:

Housing project Gföhl. http://www.gedesag.at/uploads/tx_iximmobilien/Gfoehl_VII_kurz.pdf, retrieved on 29.06.2017

Gov. of Lower Austria, 2006-1: Amt der NÖ Landesregierung, Abteilung Raumordnung und Regionalpolitik, 2006: Generelle Untersuchung der landschaftlichen Verträglichkeit von Siedlungserweiterungen in der Wachau. St. Pölten.

Gov. of Lower Austria, 2006-2:

Amt der NÖ Landesregierung, Abteilung Raumordnung und Regionalpolitik, 2006: Generelle Untersuchung der landschaft-

lichen Verträglichkeit von Siedlungserweiterungen in der Wachau. St. Pölten.

Gov. of Lower Austria, 2017:

http://www.noegv.at/noe/Bauen-Neubau/Bauen_Neubau.html;

http://www.noegv.at/noe/Kaufen-Verkaufen/Kaufen_Verkaufen.html;

http://www.noegv.at/noe/Sanieren-Renovieren/Sanieren__Renovieren.html;

http://www.noegv.at/noe/Wohnen-Leben/Wohnen_Leben.html, retrieved on 06.07.2017

Holzbaupreis NÖ_1, 2017:

Winery Högl - Wachau. <http://www.holzbaupreis-noe.at/die-besten/2016/detail/detail/weingut-hoegl-wachau/> . retrieved on 07.07.2017

Holzbaupreis NÖ_2, 2017:

House conversion - Wachau. <http://www.holzbaupreis-noe.at/die-besten/2014/detail/detail/haus-am-venusgarten/> . retrieved on 07.07.2017

JAP! Architektur, 2017:

Competition Bergern III, Unterbergern. <http://jap-architektur.at/projekte/wettbewerb-bergern-iii>, retrieved on 29.06.2017

Kanonier, 2014-1: Boden- und Raumordnungsrecht 1. Vorlesungsunterlage VII, TU Wien.

Kanonier, 2014-2: Boden- und Raumordnungsrecht 1. Vorlesungsunterlage VIII, TU Wien.

Lower Austrian Building Regulations, 2014: Gesamte Rechtsvorschrift für NÖ Bauordnung 2014, Fassung vom 06.07.2017. <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=LrNO&Gesetzesnummer=20001079>, retrieved on 06.07.2017

Lower Austrian Planning Law, 2014: Gesamte Rechtsvorschrift für NÖ Raumordnungsgesetz 2014, Fassung vom 05.07.2017. <https://www.ris.bka.gv.at/GeltendeFassung.wxe?Abfrage=LrNO&Gesetzesnummer=20001080> . retrieved on 05.07.2017

Municipality of Rossatz-Arnsdorf, 2014: Gemeinde Rossatz-Arnsdorf, Verordnung für den Teilbebauungsplan KG Rossatz und KG Rührsdorf .

NEST - Agentur für Leerstandsmanagement, Wien, 2016. <http://www.nest.agency>, retrieved on 06.07.2017

Nextroom, 2002:

House rebuild - Wachau. <https://www.nextroom.at/index.php?inc=building&id=29670> . retrieved on 07.07.2017

NÖVOG, 2015:

Fahrgastzahlen. http://www.noevog.at/de/default.asp?tt=NOEVOG_R159&id=87002, retrieved on 17.06.2017

ORF, 2016:

Wachaubahn mit neuen Triebwägen. <http://noe.orf.at/news/stories/2765825/>, retrieved on 17.06.2017

ÖSW, 2017:

Homepage Österreichisches Siedlungswerk. Projektinfo Perfektastraße 58, 1230 Wien, 2017: <http://www.oesw.at/immobilienangebot/in-planung/Objekt/Perfektastrasse.html>, retrieved on 06.06.2017

raumordnung-noe.at, 2016-1: <http://www.raumordnung-noe.at/index.php?id=192>, retrieved on 05.07.2017

raumordnung-noe.at, 2016-2: <http://www.raumordnung-noe.at/index.php?id=16>, retrieved on 05.07.2017

raumordnung-noe.at, 2016-3: <http://www.raumordnung-noe.at/index.php?id=26>, retrieved on 05.07.2017

Salzburg-Verkehr.at, 2017:

VCÖ-Studie Salzburger Regionalbahnen. <https://salzburg-verkehr.at/vcoe-studie-salzburgs-regionalbahnen-legten-im-vorjahr-an-fahrgaesten-zu/>, retrieved on 17.06.2017

stadtland, 2006: <http://stadtland.at/htm/projekte/wachauSiedlungserweiterung.htm>: http://www.raumordnung-noe.at/fileadmin/root_raumordnung/infostand/oertliche_raumordnung/siedlungserweiterung_wachau/wachau.pdf, retrieved on 02.07.2017

Statistik Austria, 2011:

Ein Blick auf die Gemeinde. Registerzählung 2011. Bevölkerung nach Ortschaften. <http://www.statistik.at/blickgem/gemList.do?bdl=3>, retrieved on 30.04.2017

Statistik Austria, 2014-1:

commuters. Abgestimmte Erwerbsstatistik 2014 - Erwerbsspendler nach Pendelziel. <http://www.statistik.at/blickgem/>, retrieved on 03.03.2017

Statistik Austria, 2014-2:

pupils and students. Abgestimmte Erwerbsstatistik 2014 - Erwerbs- und Schulpendler/-innen nach Entfernungskategorie. <http://www.statistik.at/blickgem/>, retrieved on 03.03.2017

Statistik Austria, 2016:

Bevölkerung am 1.1.2016 nach Ortschaften, Gebietsstand 1.1.2016. edited on 14.06.2016

VCÖ, 2017:

Regionalbahnen in Österreich modernisieren und ausbauen. <https://www.vcoe.at/news/details/regionalbahnen-in-oesterreich-modernisieren-und-ausbauen>, retrieved on 21.05.2017

VOR, 2017:

Mobility in the Wachau region. https://www.vor.at/fileadmin/CONTENT/Downloads/Folder/Fahrplanfolder/Mobil_in_der_Wachau_01.pdf, retrieved on 05.07.2017

Weltkulturerbe-wachau.org: Wachauzonen. http://www.weltkulturerbe-wachau.org/projekte/detailansicht/rwd_projects/

wachauzonen/?tx_rwdprojects_projectdisplay%5BcategoryFilterUids%5D=&tx_rwdprojects_projectdisplay%5Baction%5D=detail&tx_rwdprojects_projectdisplay%5Bcontroller%5D=Project&cHash=bb-82c3865d0ee4755c10652196f9d9c5 . retrieved on 04.07.2017

Community Infrastructure:

Kindergartens in Lower Austria. http://www.noe.gv.at/noe/Kindergaerten-Schulen/Kindergaerten_in_NOE.html . retrieved on 30.04.2017

Schools in Lower Austria. <https://www.schule.at/schulfuehrer/niederoesterreich/> . retrieved on 30.04.2017

Medical practices in Lower Austria. <https://cms.arztnoe.at/cms/ziel/100969/DE/> . retrieved on 30.04.2017

Pharmacies. in Lower Austria (Search by districts Krems, Melk) <http://www.apothekenindex.at/apotheken/index.php?cPath=30> . retrieved on 30.04.2017

ATM, Bank branches. Yellow Pages (Search by municipality name). <http://www.herold.at> . retrieved on 30.04.2017

Post offices, Postal service partners (Search by municipality name). <https://www.post.at/suche/standortsuche.php> . retrieved on 30.04.2017

Bakeries, grocery stores, butcher shops, supermarkets. Yellow Pages (Search by municipality name). <http://www.herold.at> . retrieved on 30.04.2017

Websites of the Municipalities

Aggsbach Markt. <http://www.aggsbach.gv.at/> . retrieved on 30.04.2017

Bergern im Dunkelsteinerwald. <http://www.bergern-dunkelsteinerwald.at/> . retrieved on 30.04.2017

Dürnstein. <http://www.duernstein.at> . retrieved on 30.04.2017

Emmersdorf. <http://emmersdorf.riskommunal.net/> . retrieved on 30.04.2017

Furt bei Göttweig. <https://www.furth.at> . retrieved on 30.04.2017

Maria Laach am Jauerling. <http://www.maria-laach.gv.at/> . retrieved on 30.04.2017

Mautern an der Donau. <http://www.mautern-donau.at> . retrieved on 30.04.2017

Mühldorf. <http://www.muehldorf-wachau.at/> . retrieved on 30.04.2017

Rossatz-Arnsdorf. <http://www.rossatz-arnsdorf.at/> . retrieved on 30.04.2017

Schönbühel-Aggsbach. <http://www.schoenbuehel.at> . retrieved on 30.04.2017

Spitz an der Donau. <http://www.spitz-wachau.at> . retrieved on 30.04.2017

Weißkirchen. <http://www.weissenkirchen-wachau.at/> . retrieved on 30.04.2017

Danube Rivering

Bauernhof Schmid. URL: bauernhof-schmid.at/wordpress_bauernhof/eine-seite/kindergarten-am-bauernhof retrieved on

08.05.2017

Donau.com, Nächtigungsstatistik, 2017, URL: http://www.donau.com/fileadmin/user_upload/Bilder_und_PDFs/Presse/2017/PT-Naechtigungsstatistik-WNK-2016.pdf, retrieved on 06.07.2017

Familie Jung, Hessen, URL: camping-huehner.com/automatischer-hofladen/, retrieved on 09.05.2017

Krems Homepage, URL: <http://www.krems.gv.at/Anrufsammeltaxi>, retrieved on 20.05.2017

langsameslicht.com, 2017, URL: <http://www.langsameslicht.com/html/dt/allgemein.html>
retrieved on 26.06.2017

meinbezirk, 2016, URL: meinbezirk.at/baden/lokales/trockensteinmauern-bauen-workshop-in-traiskirchen-d1613720.html,
retrieved on 22.05.2017

meinbezirk, 2013, URL: <https://www.meinbezirk.at/baden/lokales/trockensteinmauern-kurse-zum-bau-auch-2013-d477965.html>,
retrieved on 12.06.2017

meine-insel.at, 2017, URL: <https://www.meine-insel.at/boot-mieten/sicherheit-auf-unseren-booten/>
retrieved on 05.07.2017

Rolla, Johann Enne, URL: <http://www.rolla.at/hauszustellung/>, retrieved on 18.05.2017

Schmids, rollender Supermarkt, URL: <https://www.unser-rollender-supermarkt.de/>, 17.05.2017

Schule am Bauernhof, URL: <http://www.schuleambauernhof.at/>, retrieved on 08.05.2017

Slow Food, URL: <http://www.slowfoodaustria.at/>,
last access: 09.07.2017

Wikipedia Badegewässer, 2017, URL: <https://de.wikipedia.org/wiki/Badegew%C3%A4sser>
retrieved on 21.06.2017

UNESCO Wachau

ams-institute.org/, 2017:
www.ams-institute.org/, retrieved on 06.07.2017

BKS Steuerberatung, 2017:
<http://wt-bks.at/1815/die-gemeinnutzige-gmbh/>, retrieved on 17.06.2017

Car2go Wien, 2017:

<https://www.car2go.com/AT/de/wien/>, retrieved on 06.07.2017

E-Control, 2017:

<https://www.e-control.at/konsumenten/strom/strompreis/was-kostet-eine-kwh>, retrieved on 06.07.2017

e- Carsharing in Niederösterreich, Erfolgsprojekte im Überblick, Land Niederösterreich, Gruppe Raumordnung, Umwelt und Verkehr, 2016

Fahrradportal, 2017:

<https://nationaler-radverkehrsplan.de/de/aktuell/nachrichten/planungshinweise-fuer-radverkehrsanlagen-im-zuge>, retrieved on 06.07.2017

Federal Ministry of Labour, Social Affairs and Consumer Protection (Sozialministerium), 2017:

https://www.sozialministerium.at/siteEN/Social_Policy_Consumers/Social_Issues/Social_Innovation/Social_Business/, retrieved on 17.06.2017

Genossenschaftsverband, 2017:

<http://www.genossenschaftsverband.at/genossenschaften/vorteile>, retrieved on 20.05.2017

Institut für Realienkunde, 2017:

<http://www.imareal.sbg.ac.at/noe-burgen-online/result/burgid/1989>, retrieved on 10.06.2017

Kurier, 2015:

<https://kurier.at/wirtschaft/karriere/ein-start-up-fuer-alt-und-jung/143.169.506>, retrieved on 18.06.2017

Land Niederösterreich, 2017:

http://www.noe.gv.at/bilder/d96/Kurzinformation_IS.NAH.pdf, retrieved on 20.05.2017

LEADER Region Wachau – Dunkelsteinerwald, 2017:

<http://www.wachau-dunkelsteinerwald.at/leader/lokale-entwicklungsstrategie/>, retrieved on 20.05.2017

LEADER region Murtal, 2017:

<https://www.zukunftsraumland.at/projekte/1609>, retrieved on 23.06.2017

LEADER Region Wachau – Dunkelsteinerwald, 2017:

www.wachau-dunkelsteinerwald.at/leader/, retrieved on 18.06.2017

lzg-rlp.de/de, 2017:

<https://lzg-rlp.de/de/gemeinschaftliches-wohnen.html>, retrieved on 06.07.2017

lzg-rlp.de/de/wohn-pflege-gemeinschaften, 2015:

<https://www.lzg-rlp.de/de/wohn-pflege-gemeinschaften-356.html>, retrieved on 06.07.2017

Netzwerk Zukunftsraum, 2017:
<https://www.zukunftsraumland.at/projekte>, retrieved on 11.06.2017

ORF, 2008:
<http://oesv1.orf.at/stories/248567>, retrieved on 04.06.2017

O. Meixner, S. Pöchtrager, R. Haas und M. Koppelstätter, 2007. Nahversorgung im ländlichen Raum –Eine entscheidungsorientierte Analyse mittels des Analytischen Hierarchieprozesses, p. 28f

Provincial administration Lower Austria, 2017:
http://www.noe.gv.at/noe/Telekommunikation/NOE_Breitbandkoordination.html, retrieved on 23.06.2017

Region Wachau, 2017:
<http://weltkulturerbe-wachau.org/welterberegion/die-wachau/>, retrieved on 10.06.2017
 seniortrainer-rlp.de/, 2017:
<http://www.seniortrainer-rlp.de/startseite.html>, retrieved on 06.07.2017

Schmid's rollender Supermarkt, 2017:
<https://www.unser-rollender-supermarkt.de/>, retrieved on 31.05.2017

Spitz an der Donau, 2017:
http://www.spitz-wachau.at/Ruine_Hinterhaus, retrieved on 10.06.2017

Statistik Austria, 2017:
<http://www.statistik.at/blickgem/gemList.do?bdl=3>, retrieved on 04.06.2017

Supermarket companies:
 Hofer, 2017:
<https://www.hofer.at/filialen/>, retrieved on 15.05.2017
 Spar, 2017:
https://www.spar.at/de_AT/index/standorte.html, retrieved on 15.05.2017
 Nah und Frisch, 2017:
<http://www.nahundfrisch.at/de/standortsuche>, retrieved on 15.05.2017
 ADEG, 2017:
<https://www.adeq.at/Marktsuche/>, retrieved on 15.05.2017
 Lidl, 2017:
<http://www.lidl.at/de/filialsuche.htm>, retrieved on 15.05.2017

wachaublog.at/, 2017:
 Source: <https://www.wachaublog.at/steinfeder-federspiel-smaragd-wachauer-weine-wachauer-winzer-wachauer-lagen-wach->

au-blog-infos-rund-um-wachau-und-urlaub-in-der-wachau/, retrieved on 06.07.2017

Wemakeit.ch GmbH, 2017:

<https://wemakeit.com/projects/belebung-burgruine-blumenegg>, retrieved on 11.06.2017

Wirtschaftskammer Österreich (WKO), 2017:

https://www.wko.at/Content.Node/Service/Wirtschaftsrecht-und-Gewerberecht/Gesellschaftsrecht/Unternehmensrecht/Gesellschaftsformen/Der_Verein_als_Unternehmer.html, retrieved on 17.06.2017

wohnprojekt-kusel.de, 2015:

<http://wohnprojekt-kusel.de/home/>, retrieved on 06.07.2017

Zukunftsraum, 2017:

<https://www.zukunftsraumland.at/projekte/1729>, retrieved on 31.05.2017

0.6.2 Figures

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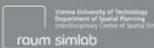
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