

CITY REGIONS

Enhanced land use governance in the Graz urban region

Pilot action final report



on behalf of



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Imprint

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CONTENTS

CONTENTS	3
1 GENERAL REMARKS.....	4
1.1 Content of project City Regions	4
1.2 Definition of targets	4
1.3 Networking and involved stakeholders.....	4
DEFINITION & OBJECTIVES OF THE PILOT PROJECT	5
1.4 Definition of the pilot project.....	5
1.5 Objectives of the pilot project.....	5
1.6 Costs & duration of the pilot	5
2 STAKEHOLDERS & PILOT PROJECT GRAZ.....	6
2.1 Steering committee	6
2.2 Stakeholders.....	6
2.3 Stakeholder meetings.....	7
2.4 Acceptance of the stakeholder meetings.....	7
3 STAKEHOLDERS & PILOT PROJECT GRAZ.....	8
3.1 Project area	8
3.2 Merging of municipalities.....	9
3.3 Separation by the river Mur	10
4 MODES OF MOBILITY	11
4.1 Overview of the different modes.....	11
4.2 Social infrastructure	11
4.3 Motorized individual traffic (MIT)	12
4.4 Pedestrians	12
4.5 Cyclists.....	12
4.6 Public transport.....	14
4.7 Comparison of times in motion.....	15
4.8 Capacity of public transport	15
5 IMPROVEMENTS OF LINES 681 AND 691	16
5.1 Principal idea	16
5.2 Comparison of driving times	19
5.3 Industrial areas.....	19
6 NEW BUS LINE	20
7 CONCLUSION.....	22
7.1 Cooperation with municipalities	22
7.2 Result of the study	22

1 GENERAL REMARKS

1.1 Content of project City Regions

The basic aim of the implementation of project City Regions is to initiate a permanent, functional and institutional cooperation between the core cities and the surrounding areas of metropolitan regions.

Main targets of this cooperation are:

- Strengthening of competitiveness for future investments
- Increasing attractiveness of the area for residents
- Protection of natural conservation areas
- Improvement of the ecological quality of the natural areas

The transnational consortium intends to plan, implement, test and evaluate procedures that worked in different partner's locations to reach the national targets.

1.2 Definition of targets

Activities in project City Regions should be implemented in 3 steps:

Step I:

The most important target of this project is about to enable knowledge transfer about different kinds of cooperation, analysis of good-practises as well as networking. This process is supported by the organization of study visits and face-to-face exchange about the pilot action planning processes.

Step II:

Implemented pilot actions should demonstrate different ways to improve regional mobility and help partners to find efficient solutions based on regional planning in metropolitan regions.

Step III:

Based on pilot actions, innovative solutions and sustainable ways of cooperation should help to create long-term effects through permanent structures, so a solid basis for decision-makers and politicians is provided.

1.3 Networking and involved stakeholders

To allow a transfer of different ways of cooperation as well as benchmark the results, there's a need for clear und understandable structures. Therefore, local networks and stakeholders should be defined. In this means and with comparable structures in different areas, it might be possible to once transfer and twice use the results.

DEFINITION & OBJECTIVES OF THE PILOT PROJECT

1.4 Definition of the pilot project

The metropolitan area of Graz is a dynamically growing region with a population of nearly 500.000 inhabitants. Based on the topographical situation of the city, growth is only possible in southern orientation, since north-, east- and westwards the agglomeration is bounded by hills. Under this circumstance, the sector of mobility has an improved importance and lots of influence on a sustainable way of growing. In addition, the historic city centre has the status of a United Nations World Heritage site with tight structures, so there's limited space for traffic infrastructure development.

In the past, politics decided priorities for the development of gentle mobility, which means that environmentally friendly modes of mobility should be fostered while car traffic should be reduced.

In the context of the regional pilot action, solutions should be found to punctual optimize the public transport system in the southern periphery, trying to encourage inhabitants not to use their car for all day and commuting journeys. Also, alternatives potentials for walking and cycling should be analysed or planned

1.5 Objectives of the pilot project

The aim of the regional pilot action is the development of a mobility concept to support an environmentally friendly and sustainable mobility. The paper includes an analysis of the current situation in the defined pilot area and should illustrate potential solutions. The concept also could be seen as a feasibility study, since it is up to decision makers to implement concrete measures after City Regions project closure.

According to the general goals of project City Regions, the following objectives have been defined for the pilot region of Graz:

- Pointing out the types and manners of cooperation between the city of Graz and surrounding communities
- Explaining, how proposed solutions are expected to successful improve mobility in the pilot area
- Clarify, if existing structures and present cooperation are sufficient in order to perform the regional pilot action

1.6 Costs & duration of the pilot

Since the pilot action is about the development of a concept, but not about a concrete implementation within project duration, there no implementation costs included but expenses for the involved external mobility expert. Implementation costs are expected in performing proposed solutions and measures – after closure of project City Regions and maybe in the framework of thematically upcoming projects.

Involved stakeholders agree in cooperation concerning an improvement of the current traffic situation in the project area and are willing to carry out cooperation throughout the project duration.

2 STAKEHOLDERS & PILOT PROJECT GRAZ

2.1 Steering committee

For the region of Graz, there are two involved project partners in project City Regions:

- The Regional Management Graz & Graz-Region
- The City of Graz (Executive Office for Urban Planning, Development and Construction)

Project partners made a public call for tender in order to engage an external expert in mobility to support the development of the regional pilot project. The tender was won by the company B.I.M. Mobility Consulting and Engineering. Those three parties represent the regional steering committee in order to effectively reach defined goals in project City Regions.

2.2 Stakeholders

In the southern surroundings of the city of Graz there's already established a positive cooperation between communities, which is used as a basis in the implementation of the regional pilot.

Stakeholders Cooperation GU-Süd:

Southern districts of the city of Graz: Liebenau, St. Peter, Puntigam and Straßgang;

Southern surrounding communities (east): Hart bei Graz, Raaba, Gössendorf, Grambach, Hausmannstätten, Vasoldsberg, Fernitz, Mellach

Stakeholders Cooperation GU-8:

Southern districts of the city of Graz: Liebenau, St. Peter, Puntigam and Straßgang

Southern surrounding communities (west): Feldkirchen, Seiersberg, Pirka, Unterpremstätten, Kalsdorf, Zettling, Werndorf and Wundschuh

Generally, contact persons for communication and cooperation are the mayors of these communities itself; in some cases they are represented by other responsables / chief officers in administration. Furthermore, technical experts are consulted by involved communities themselves optionally.

Considering geographical aspects of the defined pilot area, the river Mur separates those two cooperation bodies straight in a north-southward direction. As the river is just crossed by three bridges within the pilot area, planned studies have been limited to the municipality cooperation GU-8, situated westward on the right bank of the river Mur. Following this natural barrier, modes of mobility also are running in north-southward direction, especially from / to Graz, while hardly crossing the river Mur at all.

The downsizing of the pilot action does not have negative effects on the eastward municipality cooperation GU-Süd; in this area, in 2010 a modern public transport concept was established, which is to be evaluated in late 2014.

2.3 Stakeholder meetings

During the implementation process, several meetings for information, coordination and discussion were organized:



Stakeholder meetings (see Annexes):

23rd January 2014: Presentation of project City Regions / pilot actions in Unterpremstätten

10th June 2014: Presentation of the actual state of the art of the pilot project in Unterpremstätten

1st October 2014: Presentation of the proposed measures in Unterpremstätten

Bilateral meetings:

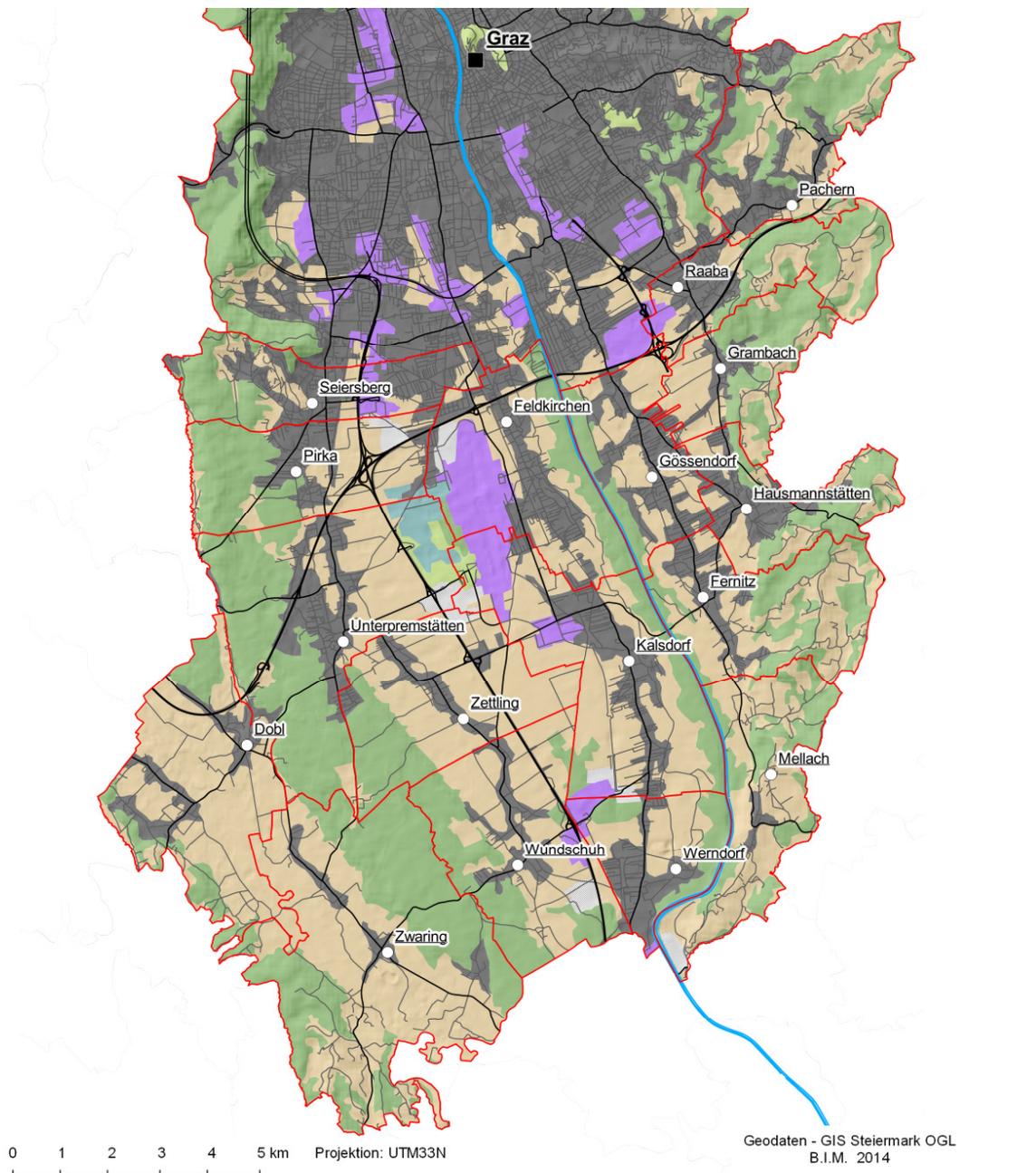
The engaged external expert, Mr. König of company B.I.M., organized several bilateral meetings with representatives of municipalities as well as carriers of public transport and the Styrian Traffic Association in order to get to know the situation of the communes and their strategic goals.

2.4 Acceptance of the stakeholder meetings

Based on the positive previous cooperation between municipalities itself and both project partners, representatives were open to participate in project City Regions. During the past years, there already have been different projects concerning mobility & transport issues, from which some in the end weren't implemented, despite of made arrangements. Therefore, there was the common goal to start a meaningful and sophisticated process, first by analysing existing problems and planning of potential measures. A possible implementation will be considered afterwards, depending on gathered knowledge. A common clearance of this circumstance is important for further trustful future cooperation.

3 STAKEHOLDERS & PILOT PROJECT GRAZ

3.1 Project area



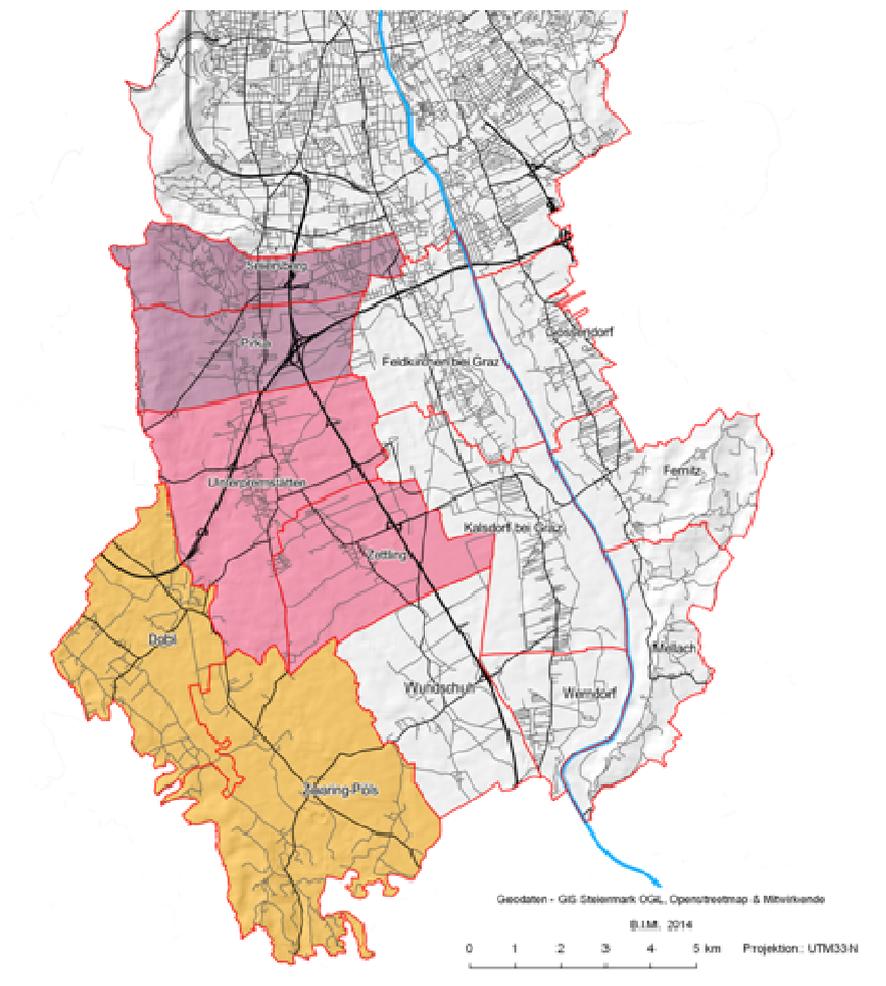
Picture 1: project area

Municipality cooperation GU-Süd is located eastward the river Mur, while cooperation body GU8 is situated on the western banks. In addition, the municipalities Dobl and Zwaring are involved in the process since they are in touch with important bus lines running through the pilot area (“functional region”).

3.2 Merging of municipalities

In 2015, the province of Styria intends the fusion of many communes in order to lower administration costs. Within the City Regions pilot project area, 6 municipalities are affected by this process:

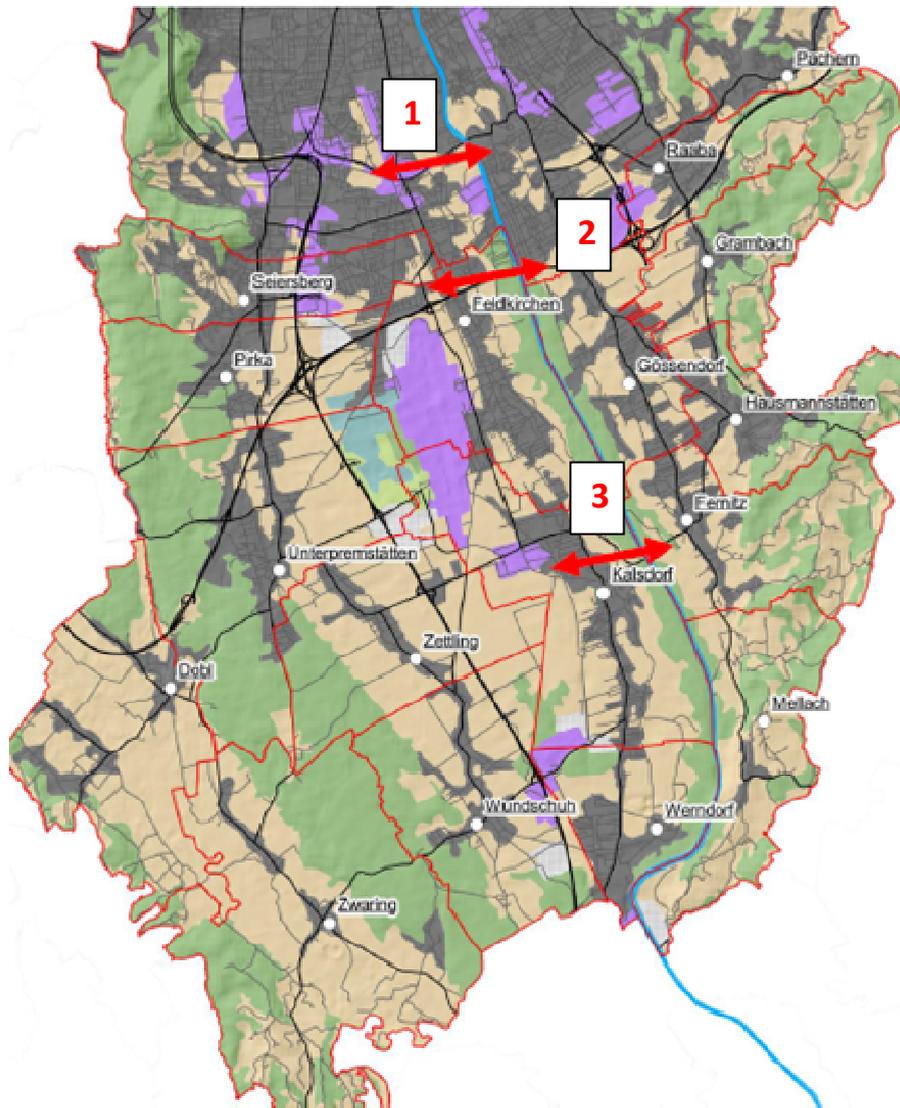
- Seiersberg and Pirka
- Unterpremstätten and Zettling
- Dobl and Zwaring (functional extension of the project area)



Picture 2: Fusion of communities

Due to this merging process, decision-making municipal councils have to freeze their agendas in order to be reconstituted after elections in summer 2015.

3.3 Separation by the river Mur



Picture 3: Bridges over river Mur

Red arrows point out the location of bridges crossing the river Mur, connecting municipality cooperation areas of GU-8 and GU-Süd.

- Bridge 1: Puntigamer Brücke in Graz, served by city bus line 64
- Bridge 2: Highway Bridge (A2 highway) in Feldkirchen, no bus line
- Bridge 3: Fernitzer Brücke in Fernitz, served by regional bus line 510

The negative effects of spatial separation due to natural reasons have to be solved by higher-level projects and measures; the pilot actions of project City Regions have to be focussed on one cooperation body.

4 MODES OF MOBILITY

4.1 Overview of the different modes

In the defined pilot area, there are four essential modes of mobility:

- Motorized individual traffic
- Pedestrians
- Cyclists
- Public transport

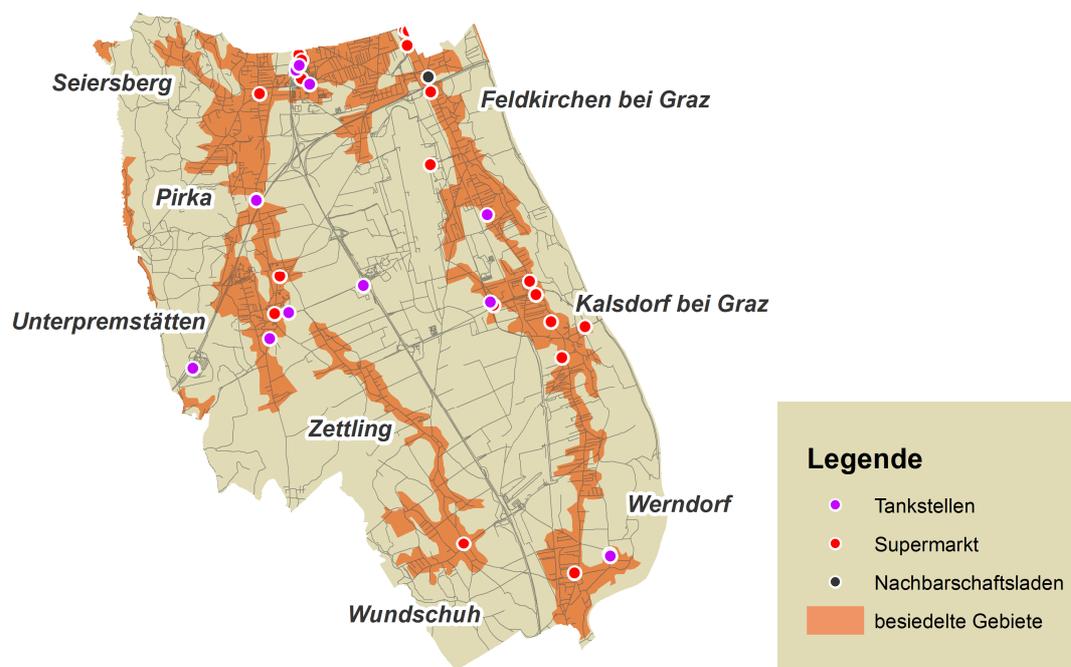
Below, these modes of mobility will be precisely analysed in reference to explore the reachability of important targets in the pilot action area.

4.2 Social infrastructure

Mobility behaviour highly defers depending on the local social infrastructure. Especially in an aging society, spatial accessibility of all-day-requirements (grocery, pharmacy, doctor, education, etc...) has an important role in settlement development. Therefore, the spatial structure of social infrastructure determines inhabitants' mobility behaviour and habits:

- Amount of cars per household
- Potential to walk / using bicycles
- Potential to use public transport for required connections

Municipalities should take care for points of social interest, to be located in or near the centre and can be reached by walking or cycling. This would have positive effects on local traffic capacity overloads as well as air- and noise-pollution.



Picture 4: Alimentary shops in the region

4.3 Motorized individual traffic (MIT)

The MIT is representing a big factor in the pilot areas' traffic system. The MIT sector could be separated into 4 sub-modes:

1. Transfer traffic
2. Commuters driving to Graz
3. Commuters driving from Graz to the companies in the project area
4. MIT within the pilot area (by different reasons)

1.) Transfer traffic

This sub-mode has its starting and ending points outside the pilot area. The region itself doesn't benefit, but nevertheless suffers of indicated negative effects (air pollution, noise pollution, limited capacities). Solutions to decrease the amount of transfer traffic will not be handled within implementation of the City Regions pilot project due to the limited time and funds.

2.) Commuters driving to Graz

Commuters mostly drive by their own cars out of the municipalities into the core city Graz, as the regional commercial and industrial centre. If commuters have the choice between using public transport or their own car, they in many cases they prefer the bus or train as a reliable, quick and cheap alternative. In areas well-connected to the commuter railway system there is an increase of at least 40 % in the use of public transport compared to the time before its implementation.

3.) Commuters driving from Graz

See 2.)

4.) MIT within the pilot area

Regarding this sub-mode, there mostly isn't an alternative to the use of the own car. Journeys are motivated by all-day-actions (going to work, buying daily goods, visiting friends or events, ...)

4.4 Pedestrians

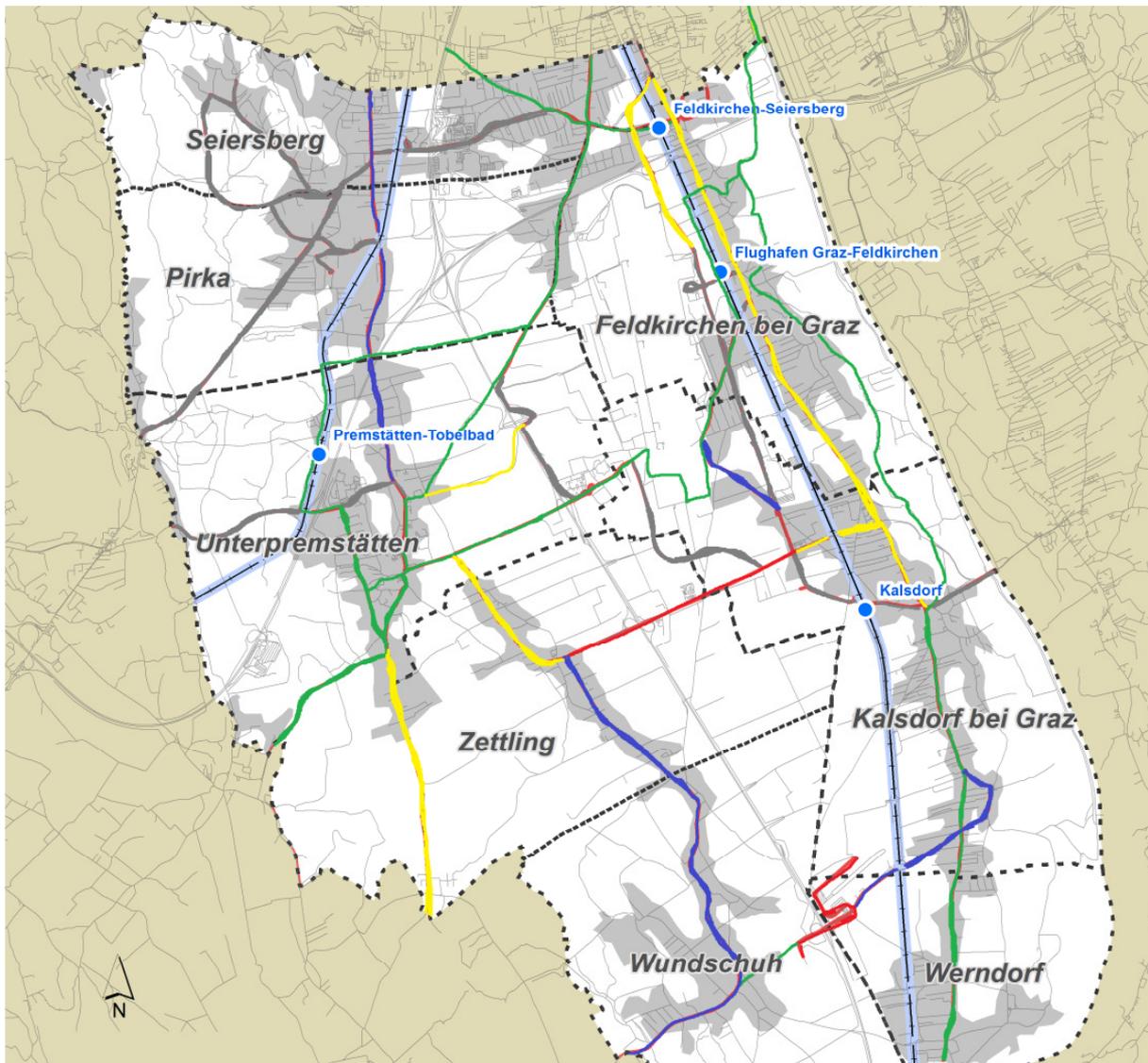
Most citizens feel for walking, if destinations are "walkable" within reach of about 10 minutes by foot. Municipalities are in charge to improve the accessibility of points of interest for this sub-mode. Walking axis, shortcuts and sidewalk along main streets help to increase the share of pedestrians in modal split.

During discussions with stakeholders, the steering group was mentioned about already existing plans and intentions to implement appropriate measures by municipalities. Therefore, walking traffic and pedestrians are not to be considered in further City Regions pilot actions detail planning.

4.5 Cyclists

Passing short distances, the bicycle represents an excellent alternative to using the car. As the pilot area is flat shaped, citizens are able to use the bike for distances up to 5 – 8 kilometres without physical barriers.

Infrastructure for cyclists has been investigated during project City Regions in order to know where it'd be useful to build or develop cycling paths.



Picture 6: infrastructure for cyclists

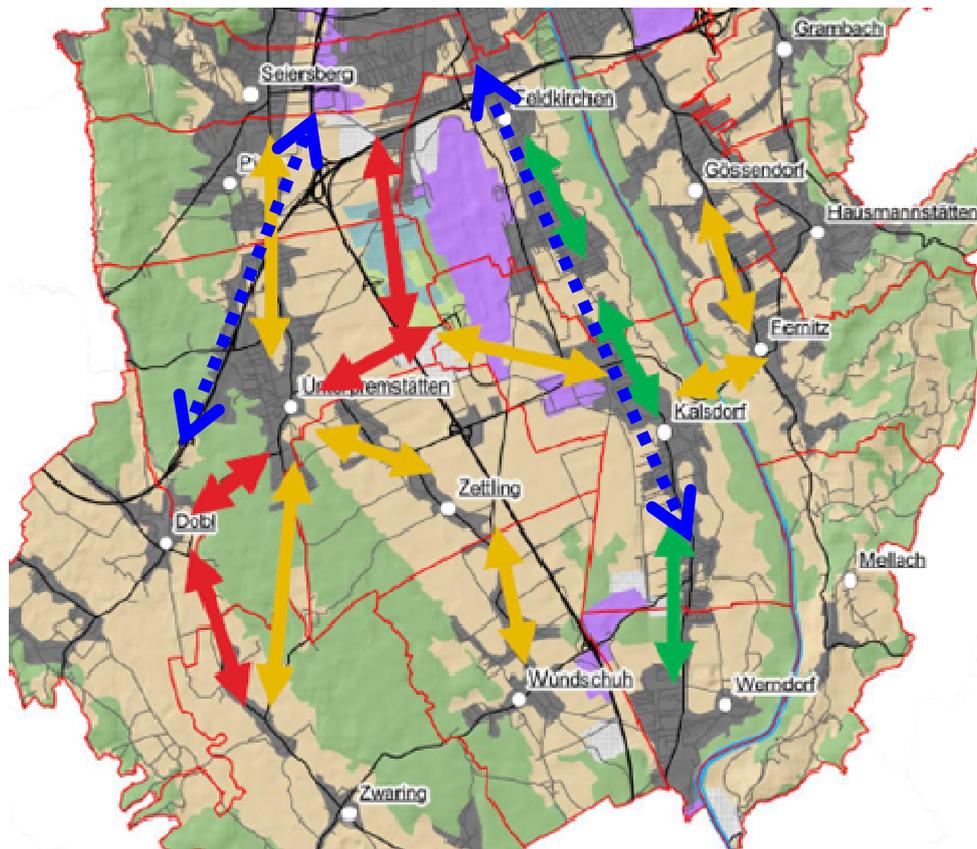
Explanation:				
Bicycle routes		No infrastructure for bikes		
Bicycle paths		Connecting road		

In the past, different projects were implemented to improve the quality of the local cycling infrastructure. Therefore, most of the required measures already are planned and waiting for realization. Possible reasons for delayed implementations are a lack of funds or hurdles in buying required real estates.

By the reasons mentioned, bicycle traffic will not be further considered in further City Regions pilot actions detail planning.

4.6 Public transport

Considerations about how to improve quality of the regional public transport network is the main objective of the pilot actions. Presently, it's the only useful way to improve mobility manners in general and reduce negative impacts of car traffic for the defined project area.



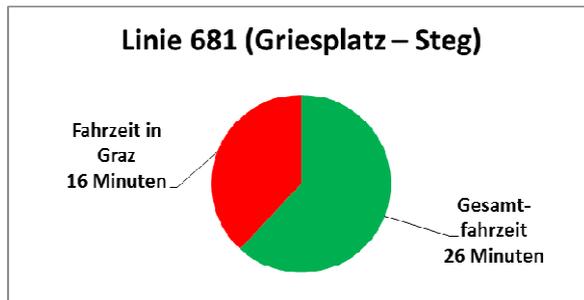
Picture 7: Bus relations in the project area

- More than 20 connections daily ↔
- 6 to 19 connections daily ↔
- Less than 5 connections daily ↔
- Train relations (S7 and S5) ↔

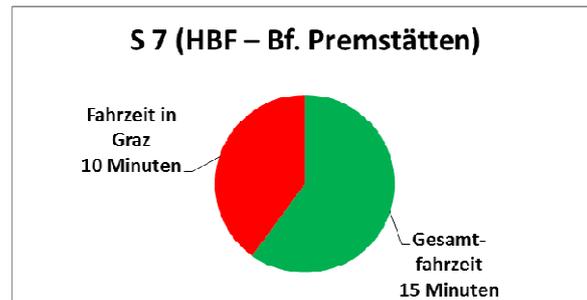
4.7 Comparison of times in motion

Charts below are pointing out times in motion between different destinations according to up-to-date timetables, whereat red sectors illustrate the share of minutes with in the core city area, green sectors the share of those spent in surrounding municipalities.

Graz – Unterpremstätten:

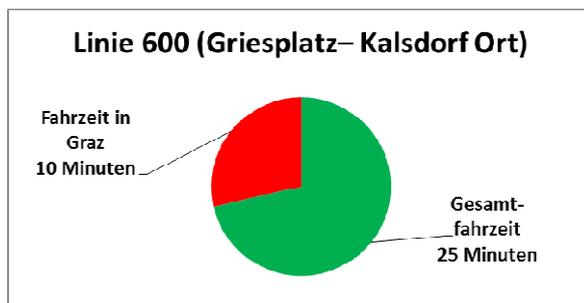


Pic. 8: Bus line 681

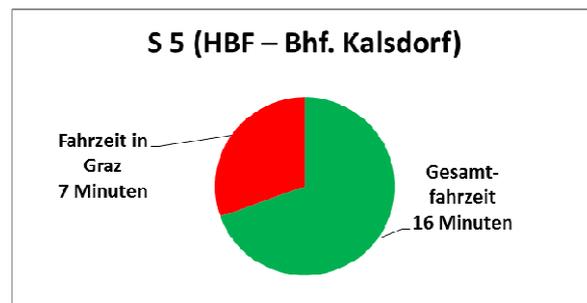


Pic 9 Commuter train S7

Graz Kalsdorf:



Pic. 10: Bus line 600



Pic. 11: Commuter train S5

4.8 Capacity of public transport

Know-how about the acceptance of bus and train connections is an important basis for realizing improvements in the public transport system. The behaviour of passengers determines the acceptance of those improvements.

Capacity in the morning peak hours

During morning peak hours (6:30 to 08:00 am) all busses, trams and trains are mostly used to full capacity by reason of simultaneous usage of both, pupils and students and commuters. Connections often do not have any tolerance to be used to additional drives.

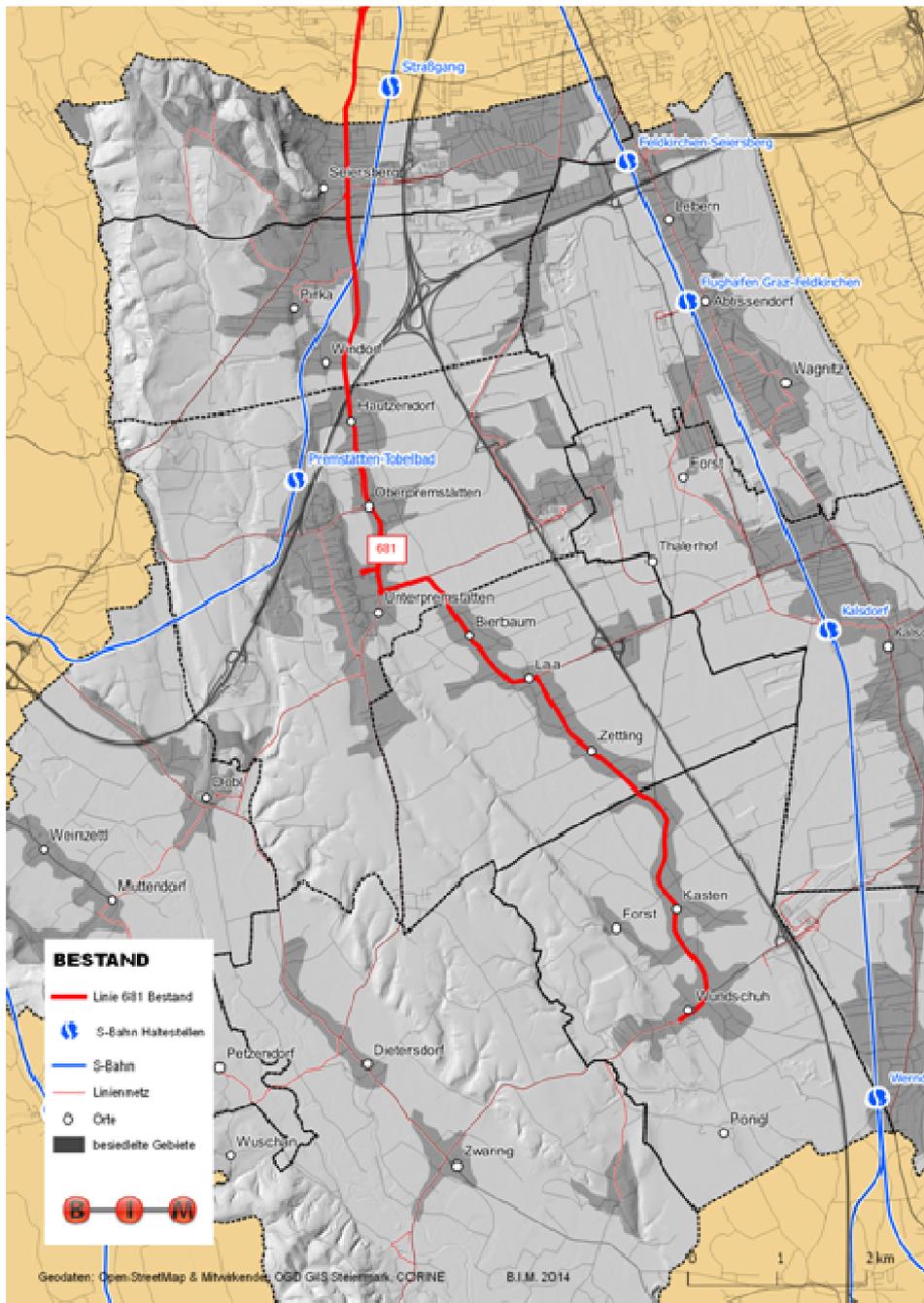
Connections for the rest of the day

As against the morning peak hours, there are free capacities for public transport during the rest of the day.

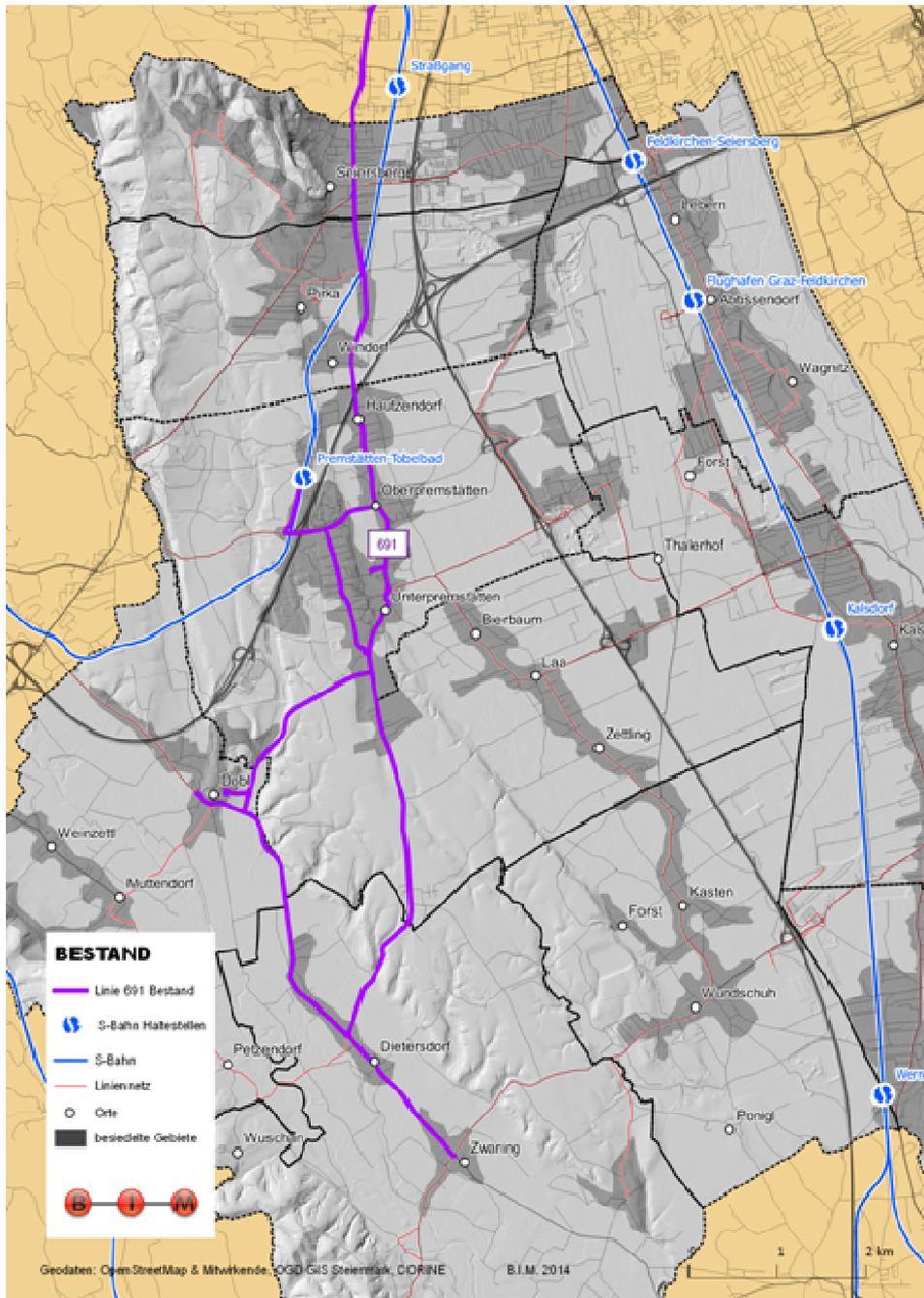
5 IMPROVEMENTS OF LINES 681 AND 691

5.1 Principal idea

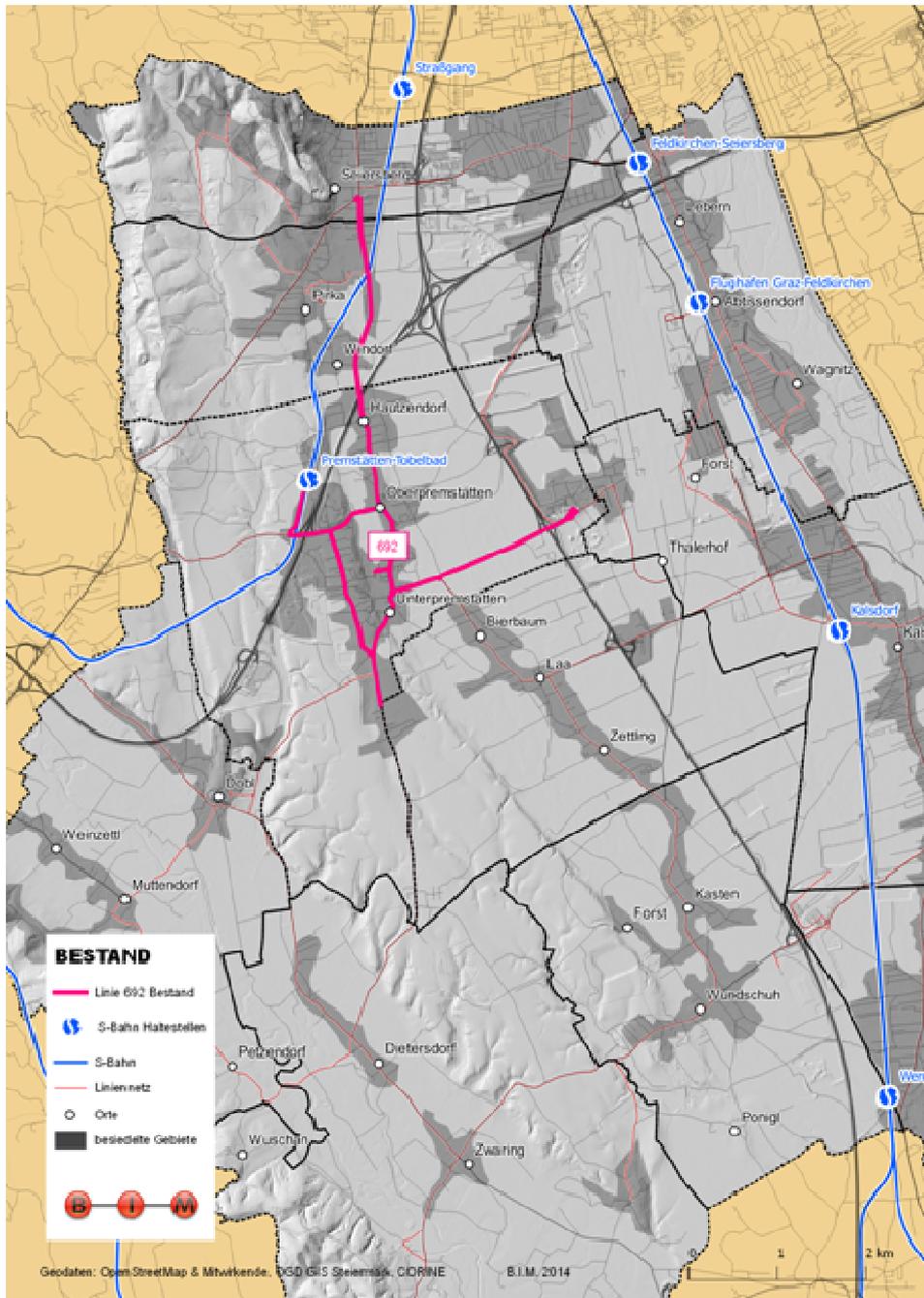
Referring to chapter 4.7., it's a fact that busses spend most of their travel time inside the city borders of Graz. Reducing this travel time means an improvement of the bus offer in the areas outside of Graz.



Picture 12: Line 681 Graz – Unterpremstätten – Wundschuh



Picture 13: Line 691 Graz – Unterpremstätten – Zwaring



Picture 14: Line 692 Unterpremstätten – IBC

Length and travel time of these bus lines will be adopted under following purposes:

- Morning peak: no change in modalities of connection to Graz
- Over the day: No bus connection to the city, BUT interchange at commuter railway systems stops (S5, S7); bus service is limited to the surroundings.

5.2 Comparison of driving times

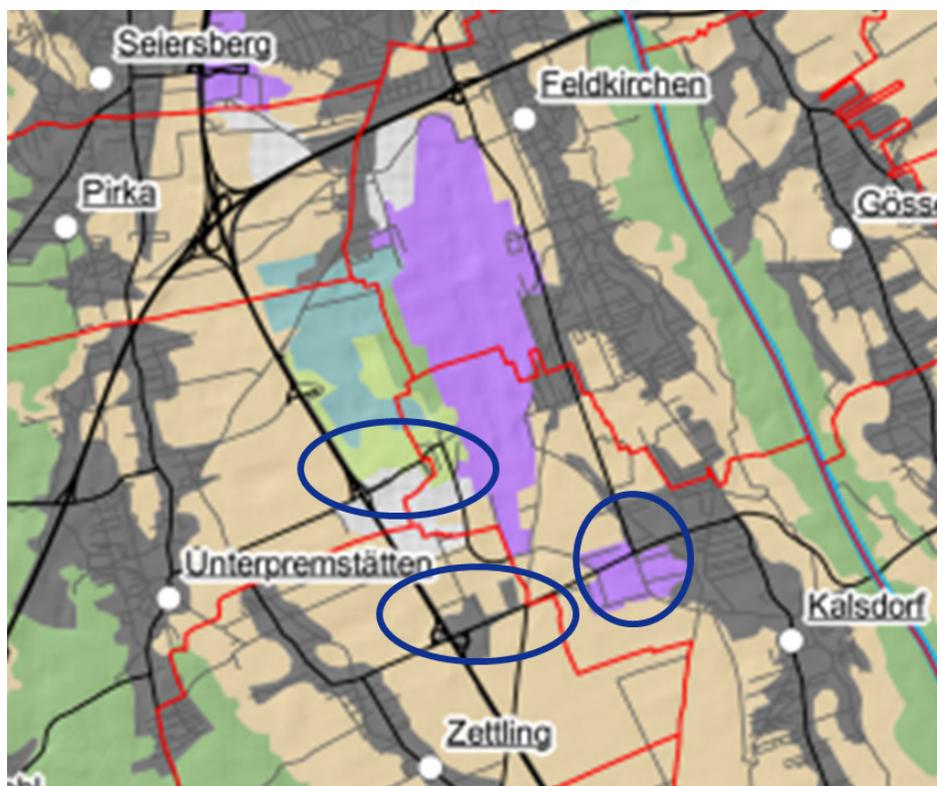
Relation	Status	Lines	change	Driving time
Wundschuh – Graz Hauptplatz	present	640	0	45 Min.
Wundschuh – Graz Hauptplatz	new	Bus/S5	2	45 Min.
Zettling – Graz Hauptbahnhof	present	681	1	50 Min.
Zettling – Graz Hauptbahnhof	new	Bus/S5	2	40 Min.
Zettling – Graz Hauptbahnhof	new	Bus/S7	2	40 Min.

Picture 15: Comparison of driving times

This table points out that time for interchanges is not that relevant, if connections are well planned. Travel times for connections including interchanges are similar to those with direct links.

5.3 Industrial areas

By the described adaptations of the public transport system, busses are able to drive through existing, presently weak serviced industrial areas. Picture 16 shows the location of three industrial areas in local context. E.g. a new implemented bus line (Unterpremstätten – Kalsdorf) could serve those zones.



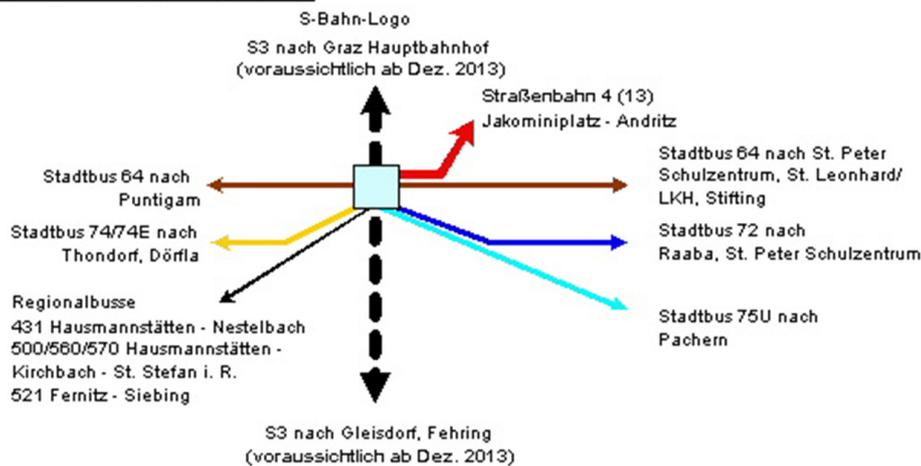
Picture 16: industrial areas in the project areas

6 NEW BUS LINE

During the discussion process with involved municipalities, representatives proposed a public transport new connection between Feldkirchen/Kalsdorf and Graz-Liebenau. This conjunction could be led over highway A2 (3rd bridge over the river Mur). The line would connect factories, important commercial centres, the airport of Graz and the south-eastern surroundings of Graz.

Within the core city of Graz, the terminal would be located at the already existing multi-modal, urban-regional public transport hub (busses, trams, commuter railway system) “Liebenau Murpark”. The following picture demonstrates the potential connections of this hub.

Knoten Liebenau Murpark



Picture 16: Connections of the hub Graz Liebenau Murpark

Regarding the area of the municipality Feldkirchen bei Graz, there are different options to implement the new bus line. As municipal bodies have to provide funds in case of a realization, details depend on their purpose.

The new line is proposed to operate from Monday to Friday (5:00 – 9:00 am and 12:00 – 19:00 pm). The cost for this service would be approx. € 160.000 per year.

Due to the process of merging municipalities in 2014 / 2015, at the moment there is no possibility to check whether municipalities are willing to finance a new public transport offer like this or not. A decision of co-financing at the earliest could be expected by May 2015.

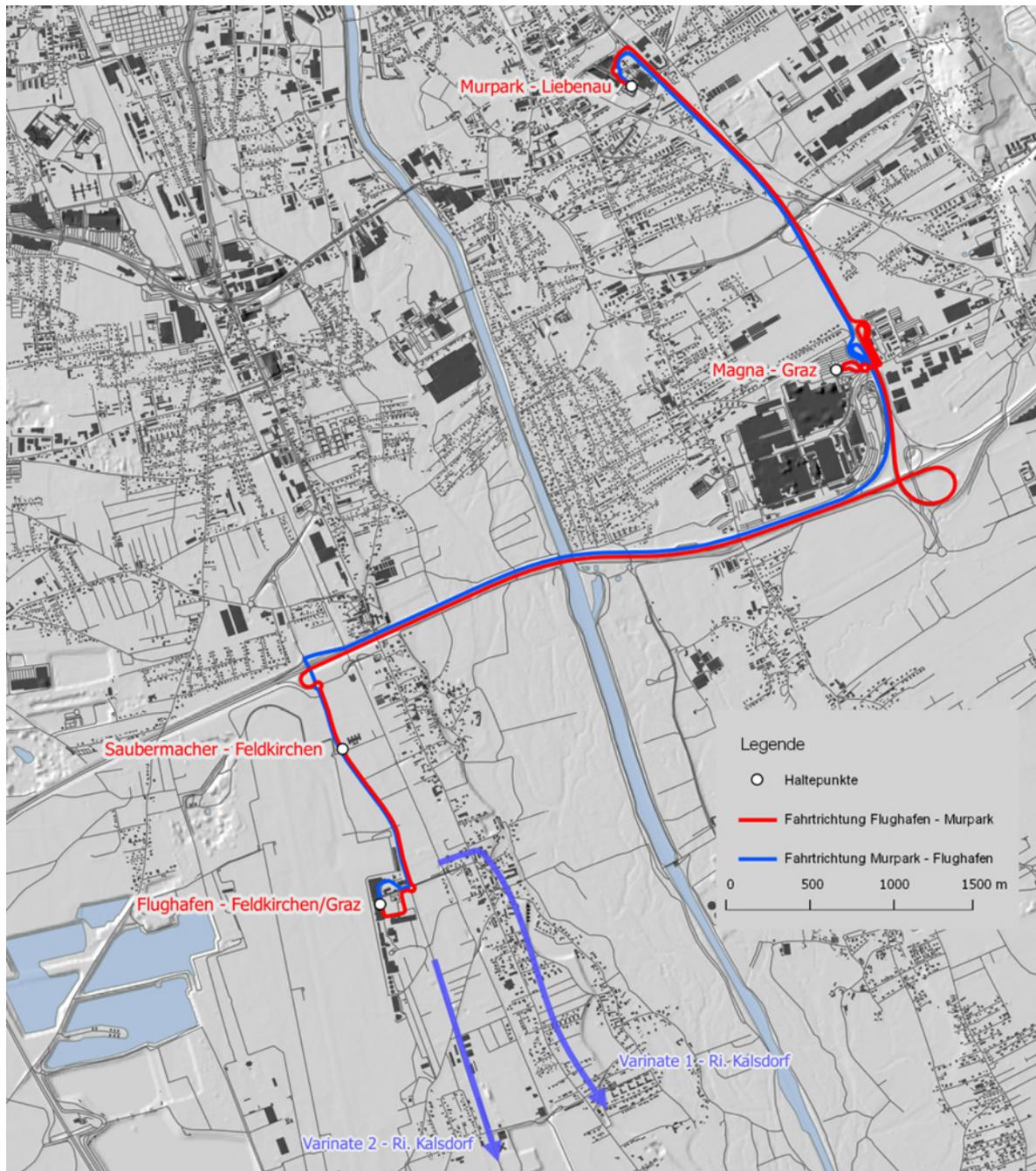


Abb. 13: Possible line Feldkirchen – Graz South east

7 CONCLUSION

7.1 Cooperation with municipalities

Cooperation with municipal representatives proved to be good and seminal. They agreed to take part in project City Regions actively, as the topic of mobility / public transport has a high priority on their agendas, too.

The basic structure of this cooperation is sufficient and doesn't need to be improved. Nevertheless, it's crucial to get in personal contact with mayors and representatives of the municipalities, to support and ensure active participation.

7.2 Result of the study

The existing public transport system could be improved by the implementation of further high-quality linkages to commuter railway system stops instead of direct connections into the city centre of Graz.

Public transport carriers are willed to cooperate and implement proposed changes if municipalities are interested in an improved regional public transport too. Basically, new connections could be ran cost-neutral, but it might be more useful to extend and finance the working hours of the bus lines. The concept is ready for implementation in the case that municipality councils accept the measures purposed.

Unfortunately, project City Regions did not use the maximum allowed duration of such projects. Therefore, binding agreements couldn't be made as the communities were confronted by fusions of some municipalities per 1.1.2015. A few months later, they would have been able to decide to implement the proposed measures.