

# ACTION PLAN LEIPZIG



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Based on the results of the Interreg Europe project **ECO-CICLE** (European network for the promotion of cycling tourism in natural areas), we implement three exemplary actions within the framework of the Charta of the Leipzig New Lakeland 2030 to improve the *Green Ring Leipzig - cycle route* by 2022.

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## ABSTRACT

This action plan is the main result of Aufbauwerk Region Leipzig GmbH (Aufbauwerk) within the Interreg Europe project ECO-CICLE. This acronym stands for *European network for the promotion of cycle tourism in natural areas*. Accordingly, the project's overarching goal is improving cultural and natural heritage development policies via the means of cycling tourism. This is because cycling is an eco-friendly transport mode. Aufbauwerk addresses the *Charta of the Leipzig New Lakeland 2030* as the regional development policy. To do so, Aufbauwerk targets the Green Ring Leipzig - cycle route (GRL- cycle route) as the longest bicycle route in the Leipzig New Lakeland.

For developing the action plan, the seven ECO-CICLE project partners had two years and a budget of 1,353,495 Euro in total. Boiled down to numbers, the regional project results for Leipzig are a list of ten topics with room for improvement and three exemplary actions summing up to an amount of 1,117,000 Euro for financing. The three selected actions will contribute to an improvement of the connection between the GRL - cycle route and public transport (Action 1 and 3), to an increased recreational value (Action 2), and to an upgraded touristic value (Action 2 and 3).

The need for the actions was identified via public participation events. The respective solutions are fueled by an exchange of experience with the other project partners and consultation of the planning office *StadtLabor*. The realization of the three actions is scheduled by the end of the ECO-CICLE project in May 2022. All the actions are designed as pilots. So, they can be replicated at several locations along the GRL - cycle route.

## POLICY INSTRUMENT: CHARTA OF THE LEIPZIG NEW LAKELAND 2030

The policy we address with this action plan is the *Charta of the Leipzig New Lakeland 2030 (charta)*<sup>1</sup>. The *charta* is a long-term instrument for the development of the Leipzig New Lakeland. It formulates the future strategy of the Leipzig New Lakeland. Thus, it is both a framework and a benchmark for regional development. More precisely, it is a framework for the planning, implementation, modification and justification of actions. Thus, the *charta* contributes to a common understanding of the involved stakeholders. The *charta's* and, thus, its stakeholders' overarching goal is the sustainable development of the Leipzig New Lakeland.

As the name of the Leipzig New Lakeland suggests, it is an area characterized by water<sup>2</sup>. In fact, there are 24 lakes<sup>3</sup> around the city of Leipzig and 220km of natural and artificial water canals<sup>4</sup>. In this context, the focus of the *charta* lies on land and especially water-side spatial development. Even though this area is characterized by water, it is important to mention that most of the lakes did not exist 20 years ago. This is because the area of the Leipzig New Lakeland underwent a transformation from a brown coal region

<sup>1</sup> For further information, please see [https://leipziger-neuseenland.org/files/cms/pdf/1\\_charta-leipziger-neuseenland-stand-24-03.2015.pdf](https://leipziger-neuseenland.org/files/cms/pdf/1_charta-leipziger-neuseenland-stand-24-03.2015.pdf) (retrieved on 20.11.2020).

<sup>2</sup> For a cartographic illustration, please see Annex 1.

<sup>3</sup> <https://leipziger-Lakeland.org/Lakeland-im-ueberblick> (retrieved on 20.11.2020)

<sup>4</sup> <https://leipziger-Lakeland.org/startseite> (retrieved on 20.11.2020).

to a recreational area. Today's Leipzig New Lakeland belongs to the Central German Lignite Mining area which used to be and still is one of the four brown coal regions in Germany<sup>5</sup>.

The closure of numerous opencast mines in the early 1990s laid the foundation for the Leipzig New Lakeland. The mining caves, which remained after the closure of the opencast mines in the Central German lignite mining area, were flooded and, thus, recultivated for humankind and nature. Post-mining lakes were and still are created, some of which are already connected with canals or will be connected with Leipzig's canals. Because of this transformation, parts of the Leipzig New Lakeland, and especially parts of some lakes, are considered as natural heritage.

The *charta* is a meaningful policy instrument to address within the scope of the Interreg Europe project ECO-CICLE because of its principles and its approach. Starting with its principles, the *charta* aims, first, at a barrier-free design of the Leipzig New Lakeland to ensure integration, inclusion and participation of all people. Secondly, it targets at consolidation, valorization and strengthening of economic development focusing on leisure and tourism industry, but also on the water-related industry. This is in line with the goals of the Interreg Europe project ECO-CICLE. As stated in the application form of ECO-CICLE, it is written in the *charta* that cycling tourism is one of the most eco-friendly types of tourism. Thus, it would contribute to the preservation of the natural heritage. In combination with multi modal transportation, this contribution could be realized even better.

The *charta* consists of nine thematic statements for the sustainable development of the Leipzig New Lakeland of which two statements address cycling tourism. The first statement refers to enabling leisure activities in their diversity. This means enabling tourism, sports and recreational use in mutual harmony. The second statement points to the diverse recreational locations in the Leipzig New Lakeland. A central question in the *charta* is how the people can reach the various recreational destinations. According to the *charta's* goals, all the recreational destinations should be either easily accessible without a car, by rail system, bus and water taxi or in short distance by bicycle. Another central question is how the *charta's* stakeholder can connect the various recreational destinations to increase touristic value. Therefore, the stakeholders committed to install a bicycle path network, consisting of both existing and new paths.

In the development of the Leipzig New Lakeland, many actors are involved, which must coordinate many projects. To facilitate regular coordination of the actors, the Leipzig New Lakeland steering group was established in 2006. Its members are municipalities, the lignite mining area redevelopment company and other institutions such as the *Green Ring Leipzig*<sup>6</sup>.

The *Green Ring Leipzig* is a "voluntary and equal working group" facilitating the implementation of actions in landscape and water development, tourism infrastructure development, electro mobility and inter-modality. The *Green Ring Leipzig* is an inter-municipal association. In 1996, more than 20 municipalities founded the *Green Ring Leipzig*. The basis for its actions is the Regional Action Plan, which includes

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<sup>5</sup> [https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/enderbericht-rwi-erarbeitung-aktueller-vergleichender-strukturdaten-deutsche-braunkohleregionen.pdf?\\_\\_blob=publicationFile&v=10](https://www.bmwi.de/Redaktion/DE/Publikationen/Wirtschaft/enderbericht-rwi-erarbeitung-aktueller-vergleichender-strukturdaten-deutsche-braunkohleregionen.pdf?__blob=publicationFile&v=10) (retrieved on 20.11.2020).

<sup>6</sup> <https://leipziger-neuseenland.org/akteure> (retrieved on 22.11.2020).

14 coordinated inter-municipal key projects<sup>7</sup>. These key projects belong to four mission statements: strong landscape, experienceable landscape, innovative landscape and edible landscape.

The mission statement of strong landscape refers to an integrated overall development of watercourse landscapes, including the surrounding area. Moreover, it addresses landscape-bound recreation and nature-compatible tourism. The mission statement of experienceable landscape picks up the nature-compatible tourism by providing much more breadth to this topic with its key projects. One of these key projects is the development and qualification of path networks. The slogan of this project is “Region of short distances”. Its aim is the improvement of existing bicycle, hiking and horse-riding path network with joint use of rural roads in the agricultural sector and subsequent use of railroad tracks as bicycle highways. As a basis for any improvement of path networks, this key project aims at the creation of high-quality and location-specific recreational cycle paths.

The *SachsenNetz Rad* is the main bicycle path network in the Free State of Saxony, the state to which Leipzig belongs. It comprises ten long-distance bicycle routes, more than 60 main regional bicycle routes and other routes that connect the most beautiful and interesting destinations in Saxony<sup>8</sup>. With its 134km distance, the *GRL - cycle route* is the longest main regional bicycle route of the path network, and goes around Leipzig<sup>9</sup>. It connects the most diverse landscape areas such as post-mining landscapes in the Leipzig Newland and compensatory landscapes around the large industrial settlements in the north of the Lakeland. Therefore, the *GRL - cycle route* is an answer to the central question of how to connect the various recreational destinations.

The *GRL - cycle route* serves on the one hand as a regional symbol of cooperation as it connects many member municipalities of the *Green Ring Leipzig*. On the other hand, it serves as a content-related hub for its visitors. Either way, the *GRL - cycle route* serves as an excellent leisure experience for its visitors and locals, too. Moreover, it is supposed to serve as a commuter path due to its connections to the local public transport system. Nevertheless, the stakeholders of the *Green Ring Leipzig* see plenty of untapped recreational and touristic potential.

In 2014 already, regional participation workshops related to the *charta* pointed at untapped potential of the *GRL - cycle route*. Such workshops make the *charta*, as stated previously and proven for its principles, a meaningful policy instrument to address within the scope of ECO-CICLE. Outcomes of the communication and participation workshops related to cycling tourism suggest connecting the lakes around Leipzig with the public transport stations nearby. Further points are rental bike stations at the train stations and the creation of bicycle highways. In addition to regional participation workshops, several stakeholders are involved in the projects of the *Green Ring Leipzig*: these are mayors, district administrators and administrative staff as well as numerous regional institutions, associations, companies, planning offices, scientists, farmers, foresters and interested citizens.

In summary, there are two main reasons why we chose the *GRL - cycle route* within the ECO-CICLE project to contribute to the *charta*'s goal of sustainable development of the Leipzig New Lakeland. First, the *GRL - cycle route* specifically embodies scenic and cultural features of the region in its diversity and, thus,

<sup>7</sup> <https://gruenerring-leipzig.de/wp-content/uploads/2017/08/grl-katalog-schl%C3%BCsselprojekte-.pdf> (retrieved on 22.11.2020).

<sup>8</sup> <https://www.radverkehr.sachsen.de/9202.html> (retrieved on 22.11.2020).

<sup>9</sup> [https://www.radverkehr.sachsen.de/download/radverkehr/SachsenNetz\\_Rad\\_2019.pdf](https://www.radverkehr.sachsen.de/download/radverkehr/SachsenNetz_Rad_2019.pdf) (retrieved on 22.11.2020).

ideally corresponds to the approach of ECO-CICLE. Secondly, the *Green Ring Leipzig* as an inter-municipal association fulfills a connecting function for numerous participating municipalities as it does for the tourism actors in the Leipzig New Lakeland region, as well. The common operational level ensures the sustainable development and maintenance of the *GRL - cycle route* as a strong and coherent tourism project. Accordingly, the experts of the Interreg Policy Learning Platform approved the *GRL - cycle route* as one of the twelve project good practices and published it on their website<sup>10</sup>. To reveal the untapped potential, the *Green Ring Leipzig* currently plans the qualification of the *GRL - cycle route*. For this qualification, the *Green Ring Leipzig* wants to develop a recommendation for action by the end of 2020.

## ACTIONS

As the development of recommendations for the *GRL - cycle route* is ongoing at the time, we can directly influence this development with the actions of this action plan. As part of ECO-CICLE, we conducted two regional workshops in June 2020 at which representatives from several city administrations, tourism, marketing and other organizations, such as the German Cyclists' Federation (ADFC) took part. As in the regional workshops from 2014, the goal was to analyze the deficits and potential of the *GRL - cycle route*. Some of the potential detected in 2014 is still present in 2020, e.g. bicycle paths to the lakes and bicycle highways. Overall, the participants assigned the identified potential to ten different topics, as shown in Table 1.

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<sup>10</sup> <https://www.interregeurope.eu/policylearning/good-practices/item/3615/cycling-network-gruener-ring-leipzig/>  
(retrieved on 20.11.2020).

TABLE 1: TEN TOPICS GROUPING THE POTENTIAL FOR THE GRL – CYCLE ROUTE.

No.	Topic	Explanation
1	Introduction of thematic segments	<ul style="list-style-type: none"> <li>Long sections of the overall route are to be subdivided so that it is easier to access and follow sections ("Wheel" and "spokes" as radial connections out of/into the city)</li> <li>Unattractive sections may have to be replaced</li> </ul>
2	Building rest facilities	<ul style="list-style-type: none"> <li>Design and installation of rest facilities at the interfaces of wheel and spokes. Potential features: bicycle parking lots, benches, roof, garbage cans, information elements, water dispensers, tube dispensers, etc.</li> </ul>
3	Improving inter-modality	<ul style="list-style-type: none"> <li>Linking the route with public transport at selected train stops</li> </ul>
4	Creating bicycle highways	<ul style="list-style-type: none"> <li>New section between Zwenkau and Böhlen</li> <li>Important shortcut for everyday traffic between the two towns, esp. to the train station in Böhlen</li> <li>Much more attractive route than the current one which runs through an area of power stations</li> </ul>
5	Improvement of existing route segments	<ul style="list-style-type: none"> <li>Pavement improvement (asphalt), landscape design by tree rows, possibly benches (e.g. between Bordsorf and Panitzsch or Taucha and Weltewitz)</li> </ul>
6	Mitigation of bottlenecks in the course	<ul style="list-style-type: none"> <li>High traffic load of the paths due to pedestrians, cyclists, horse riders etc., e.g. at the Lake Schladitz</li> <li>Conflicts could be solved by separate routing and/or widening</li> </ul>
7	Removal of danger spots and obstacles on the way	<ul style="list-style-type: none"> <li>Sometimes there are dangerous barriers, bends and obstacles, which should be mitigated or removed if possible</li> </ul>
8	Marketing	<ul style="list-style-type: none"> <li>Marketing event, e.g. an organized rally along the route to increase the general perception of the route as a special experience</li> </ul>
9	Development of an exemplary segment	<ul style="list-style-type: none"> <li>Selection, naming and design of a ring segment, e.g. featured with information elements and suitable local partners along the cycling path</li> </ul>
10	Simplifying reachability	<ul style="list-style-type: none"> <li>Simplified bicycle transport in public transport</li> <li>Classifying overnight accommodations, esp. camping</li> </ul>



## RECOMMENDATIONS' OVERVIEW

Inspired by various good practices from our ECO-CICLE partners, we developed three actions out of the ten topics presented in Table 1, best fitting to the context of ECO-CICLE. The *Green Ring Leipzig* and *StadtLabor*, an external planning office for regional development, supported the actions' development.<sup>11</sup>

TABLE 2: THREE ACTIONS FOR THE GRL – CYCLING ROUTE.

Identified potential	Action	ECO-CICLE reference
<ul style="list-style-type: none"> <li>▫ Improving inter-modality</li> </ul>	<ul style="list-style-type: none"> <li>▫ Action 1: Connecting the cycle route with public transport</li> </ul>	<ul style="list-style-type: none"> <li>▫ Vistula Cycling Route (POL)</li> <li>▫ The cycling plan of Andalusia (ESP)</li> </ul>
<ul style="list-style-type: none"> <li>▫ Building rest facilities</li> </ul>	<ul style="list-style-type: none"> <li>▫ Action 2: Rest facilities at intersection with other cycling paths</li> </ul>	<ul style="list-style-type: none"> <li>▫ Development of cycling routes in the province of Cádiz (ESP)</li> </ul>
<ul style="list-style-type: none"> <li>▫ Creating bicycle highways</li> <li>▫ Improvement of existing route segments</li> <li>▫ Mitigation of bottlenecks in the course</li> </ul>	<ul style="list-style-type: none"> <li>▫ Action 3: Re-routing a segment</li> </ul>	<ul style="list-style-type: none"> <li>▫ Vistula Cycling Route (ESP)</li> </ul>

The three actions are concrete, exemplary and innovative for the *GRL - cycling route*. Content wise, they cover a broad spectrum from 1. strengthening the connection of the cycle route with the public transport system, 2. increasing the touristic experience by upgrading the route with dedicated rest areas in combination with information boards and 3. optimizing the route by taking advantage of touristic potential, e.g. by passing lakes directly. With these three actions, we contribute to the current development of the *GRL - cycle route*. Consequently, we contribute to the *charta's goal of sustainable development* of the Leipzig New Lakeland as a transformation area. The main contributions are strengthening cycling tourism as an eco-friendly type of tourism. Eventually, we contribute to strengthening the cycling path network under the consideration of utility for both tourists and locals. In this way, we leverage sustainable touristic experience and, thus, the preservation of natural heritage.

### Action 1: Connecting the cycle route with public transport

The aim of Action 1 is improving the connection between the *GRL - cycle route* with nearby public transport stations and, thus, contributing to inter-modality. We can realize this by signposting the way from the station to the cycle route and vice versa. Moreover, we want to construct a bicycle station to highlight the bicycle as part of inter-modality. This will increase the value of public transport stations for both bicycle tourists and locals going by bicycle, esp. commuters.

#### Current Situation

Currently, signposts do not guide cyclists starting at public transport stations to the *GRL - cycle route* and vice versa in many cases. This is a problem because many cyclists start or finish their tour at public transport

<sup>11</sup> For a graphical overview, please see Annex 2.



stations, esp. train stations. This is at least what we know from cycle path planning software like outdooractive<sup>12</sup> or sports tracking software like Strava. Hence, there is room for improvement for the connection of the *GRL - cycle route* and stations of public transport. For instance, in the municipality of Borsdorf where the *GRL - cycle route* is passing by the train station in a cycling distance of 350m, the train station is signposted from the *GRL - cycle route*<sup>13</sup> but not vice versa.

Generally, there are almost no public repair stations for cyclists. On the *GRL - cycle route*, there is none. This is a problem as most cycle tourists are active at the weekends or on bank holidays when bicycle shops are closed. Even though all cyclists should carry the most important tools with them, there are limits to quantity, weight and size. For instance, cyclists usually carry only a few tubes with them. In the worst case, they might need more than carried. Fortunately, there are tube machines, e.g. by Continental and Schwalbe. Unfortunately, close to the *GRL - cycle route* there is no such machine by Continental<sup>14</sup> and only a few by Schwalbe<sup>15</sup>. In walking distance around Borsdorf, there is no such machine at all. Moreover, for some activities an assembly mount is of high value, e.g. removing and installing the wheels which is necessary for changing the tubes in case of a flat tire.

### ECO-CICLE input

For Action 1, we oriented ourselves mainly on two partner projects. First, the project of *Guiding and marking out the regional section of the Vistula Cycling Route* (POL). The title itself and the following line served as a blueprint for us: “connect[ing] cycling and public transport and promote cycling as a sustainable mode of transport and tourism”<sup>16</sup>. Passing train stations eases the arrival and departure of cycle routes. Following this, we first want to connect the *GRL - cycle route* with nearby public transport by signposts without any interruption. Secondly, we want to design these potential start/endpoints for both bicycle tourists and locals, as done in the best practice of the Vistula cycling Route. Doing so, we aim at achieving what our Spanish partners achieved with their best practice *The cycling plan of Andalusia* (ESP), where they “increas[ed] the proportion of cycling in modal split and facilitate[d] its connection to public transport.”<sup>17</sup> Accordingly, we want to support potential starting/end points of the *GRL - cycle route* with information regarding the route itself and inter-modality. On top of that, we want to provide infrastructure tailored to the needs of cyclists. This will be beneficial for both bicycle tourists and locals going by bicycle, esp. commuters. Hence, locals might be sensitized for the advantages of cycling in terms of leisure but also in terms of transport in everyday life.

### Action

We aim at improving the connection between train stations as typical start or endpoints of the *GRL - cycle route* in a first step. This means signposting the *GRL - cycle route* at the train station in Borsdorf. In a second step, we want to increase the value of public transport stations for all kinds of cyclists with a bicycle station.

<sup>12</sup> The *GRL - cycle route* for download as a gpx-file, starting/finishing at the train station in Böhlen:

<https://www.outdooractive.com/de/route/radtour/region-leipzig/gruener-ring-leipzig/13170858/#dm=1&dmdtab=oax-tab1> (retrieved on 27.11.2020).

<sup>13</sup> For a picture, please see Annex 4.

<sup>14</sup> <https://www.continental-reifen.de/fahrrad/schlauchomat> (retrieved on 28.11.2020).

<sup>15</sup> <https://www.schwalbe.com/en/haendlersuche> (retrieved on 28.11.2020).

<sup>16</sup> <https://www.interregeurope.eu/policylearning/good-practices/item/3322/guiding-and-marking-out-the-regional-section-of-the-vistula-cycling-route/> (retrieved on 28.11.2020).

<sup>17</sup> <https://www.interregeurope.eu/policylearning/good-practices/item/3553/the-cycling-plan-of-andalusia/> (retrieved on 28.11.2020).

We can implement signposts at the train station with a short notice and without great financial outlay. This is because the distance between train station and the GRL – cycle route is only 350m. Also, there are almost no turns on this way, as illustrated in Annex 3. Moreover, we take advantage of the existing signposting system for the GRL - cycle route. This means that we just need to order pre-designed signposts. On top of that, there are potential posts for the signposts already, for instance the one in front of the train station Borsdorf, as showed in Annex 5. Overall, signposting the missing link between train station and GRL – cycle route requires 5 to 7 signposts and 3 to 6 posts. The implementation of the signposts requires coordination between the GRL - cycle route and the municipality of Borsdorf.

In addition to the signposts, we want to create a public bicycle station at the train station Borsdorf. This station serves three purposes: 1. shelter and rest, 2. provision of information, and 3. bicycle repair station. The municipality of Borsdorf partly owns the area of the train station. Currently, there are negotiations underway for the purchase of additional areas with Deutsche Bahn. On the dedicated area, we can convert an existing shed into the bicycle repair station together with the building administration of the community of Borsdorf. So, we can provide roofed shelter. For rest, we want to equip the station with table, bench and bin. Provision of information regards the possibilities and impact of inter-modality on sustainable transport. As it is the case for the signposts, we can take advantage of existing information boards about the GRL - cycle route, too. Public repair stations unbound to opening hours are of high value for all kind of cyclists. However, we must take vandalism into account. Therefore, we want to install appropriate products. For tubes, the German Cyclists' Federation (ADFC) recommends tube machines, e.g. by Continental or Schwalbe<sup>18</sup>. For repair stations, it recommends self-repair stations as installed in an area close to the city of Stuttgart, already<sup>19</sup>. These stations consist of an assembly mount, air pump for different valves and tools like hex and Allen key as well as screwdrivers.

### Stakeholder

- Municipality of Borsdorf
- Green Ring Leipzig
- Deutsche Bahn

### Timeframe, costs and financing

Time	Milestone	Estimated costs (€)	Financing
2021/01-2021/09	□ Planning, purchase and implementation of signposts	2,000	Green Ring Leipzig
2021/01-2021/06	□ Negotiations and purchase of the area with the shed	Out of scope <sup>20</sup>	□ Municipality of Borsdorf
2021/07-2021/12	□ Planning the bicycle station	3,000	□ Municipality of Borsdorf □ "Bike+Ride-Offensive" (Deutsche Bahn)

<sup>18</sup> For pictures, please see Annex 6 and Annex 7.

<sup>19</sup> For pictures, please see Annex 8 and Annex 9.

<sup>20</sup> Prone to high variance and, thus, no estimation.

2022/01- 2022/04	▫ Reconstruction: turning the shed into the bicycle station	7,000	▫ Municipality of Borsdorf ▫ "Bike+Ride-Offensive" (Deutsche Bahn)
2022/05	▫ Adding the equipment for rest (e.g. bench) and bicycle repair (e.g. repair station)	10,000	▫ "Bike+Ride-Offensive" (Deutsche Bahn)
<b>Sum</b>		<b>EUR 22,000<sup>21</sup></b>	

The costs for signposting (EUR 2,000) will be covered by the *Green Ring Leipzig*. The financing of the bicycle repair station (EUR 23,000 €) could be covered by the municipality of Borsdorf with the support of the "Bike+Ride-Offensive"<sup>22</sup>. This is a cooperation project of Deutsch Bahn and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. It is part of the National Climate Protection Initiative and supports local authorities in building new bicycle parking spaces at their stations. The aim is to make the stations more attractive for substituting car by bicycle in combination with public transport.

## Action 2: Rest facilities at intersection with other cycling paths

The goal of Action 2 is to strengthen the existing bicycle path network. To do so, we will create rest facilities at intersections with other cycle paths. By doing so, we will provide recreational utility to as many bicycle tourists as possible and, thus, improve recreational experience. To even increase this experience, we will inform about local specialties of touristic value, e.g. the history of lignite mining or flora and fauna.

### Current Situation

The *GRL - cycle route* as a round trip allegorizes a wheel around Leipzig and the city itself as its hub. Unfortunately, there are only few designated spokes, i.e. direct paths, connecting wheel and hub. Thus, there is room for improvement in terms of connectivity. Public transport serves as spokes, but the transport of bicycles is only possible on trains. On trains, limited transport is possible, but there are only few train lines in the sense of spokes. There are cycle paths connecting wheel and hub, but only a few are signposted in a way that they could serve as spokes, for instance the long-distance cycle path connecting the cities of Leipzig and Berlin.

More designated spokes are desirable because, first, these spokes would increase the attractiveness of commuting by bicycle between city and suburbs. The reason is that commuting by bicycle on these cycle paths will be faster and safer than car roads. Thus, the share of commuters going by bicycle might be increased, potentially. Due to the same reason, this secondly would increase the attractiveness of the *GRL - cycle route* for the city dweller. Thus, the radiation might encourage more city dweller to cycle to the surrounding landscape and, for instance, cycling along the *GRL – cycle route*. Vice versa, it would be much more attractive for people cycling along the *GRL – cycle route* to turn from the route to the city of Leipzig. Hence, the spokes might increase cycling tourism in both directions. In addition, cyclists could use two spokes to do a shorter round trip than the whole *GRL – cycle route*. This would make it much more attractive to cycle even just segments of the *GRL - cycle route*.

<sup>21</sup> For a more detailed expense allocation, please see Annex 10 and Annex 11.

<sup>22</sup> <https://www1.deutschebahn.com/bikeandride> (retrieved on 28.11.2020).

At the time, most of the few existing intersections between wheel and hub are loose, i.e. there are no spoke nipple. In case of intersections between public transport and the *GRL - cycle route*, there are no signposts guiding to the route, as explained in Action 1: Connecting the cycle route with public transport. In case of intersections with other cycle paths, e.g. at the intersection with the long distance cycle path Berlin-Leipzig in Plaußig, there are not even specific signs pointing at the other cycle path. Thus, people cycling along one path might not notice the other path.

Furthermore, along the 134km of the *GRL - cycle route* there are almost no rest facilities directly at the route. If so, they belong to places of interest, e.g. restaurants or food trucks. Nevertheless, people cannot use these rest facilities out of their opening hours. Hence, there is room for improvement in terms of roofed rest facilities tailored to the needs of bicycle tourists.

### ECO-CICLE input

As for Action 1, the ECO-CICLE best practice *Guiding and marking out the regional section of the Vistula Cycling Route (POL)* inspired us for another action – namely by imitating the point of “joining numerous existing routes”. We want to take on that by creating visible intersections between the *GRL - cycle route* and other cycle routes. Thus, the cyclists of one bicycle route would become aware of other routes, as well. The ECO-CICLE best practice *Development of cycling routes in the province of Cádiz (ESP)* encouraged us to think bigger, triggered by the line “designing and constructing a network of cycle routes”. In the New Lakeland, many cycle routes exist and most of them are covered in the *SachsenNetz Rad*, the main bicycle path network in the Free State of Saxony. However, this network is only visible on the map but not on the routes outdoors. This brings us to highlight the existing network of cycle routes. Once people recognize the several cycle routes as a network, they can create their own tours by combining segments of different routes.

### Action

At the intersection between the *GRL - cycle route* and the cycle path Berlin-Leipzig in the village of Plaußig, we want to create an exemplary rest facility<sup>23</sup>. It will serve as an orientation point for all cyclists irrespective of the route they are pedaling. In other words, it will serve as the nipple for wheel (*GRL - cycle route*) and spoke (cycle path Berlin-Leipzig), as we will equip the rest facility with information boards for the two intersecting cycle routes. As there are information boards for both cycle routes, we just need to make copies of those templates. This will be coupled with signposts around the intersection. Hence, we will significantly strengthen the visibility of the two routes. Doing so, we will contribute to the recognition of the cycle routes in the big picture of the bicycle path network around Leipzig. The rest facility will be a pilot facility with a characteristic design and, thus, with a high recognition value<sup>24</sup>. With it accompanying, we want to equip the pilot facility with elements tailored to the need of bicycle tourists specifically and outdoor tourists generally, e.g. roof and windscreen, desk and bench, bicycle racks and bin.

The area of interest for the rest facility is especially suitable for a pilot facility because it is located at a biotope of flower and fruit meadows. The area is managed by the Nature and Biodiversity Conservation Union Germany (NABU) and owned by the city of Leipzig. Several information boards are already

<sup>23</sup> For a cartographic illustration, please see Annex 12.

<sup>24</sup> For potential additional locations, please see Annex 14.

available there<sup>25</sup>. Overall, with this action we enrich the touristic value in terms of orientation, recreation and environmental education.

### Stakeholder

- City of Leipzig
- Green Ring Leipzig
- Nature and Biodiversity Conservation Union Germany (NABU)

### Timeframe, costs and financing

Time	Milestone	Estimated costs (€)	Financing
2021/01- 2021/06	<ul style="list-style-type: none"> <li>▫ Planning the rest facility</li> </ul>	5,000	<ul style="list-style-type: none"> <li>▫ Climate protection by bicycle traffic<sup>26</sup> (Federal Ministry for the Environment, Nature Conservation and Nuclear Safety)</li> <li>▫ Providing financial assistance to the promotion of cycling<sup>27</sup> (Federal Ministry of Transport and Digital Infrastructure)</li> <li>▫ Funding for road and bridge construction projects of municipal building authorities<sup>28</sup> (Saxon State Ministry of Economics, Labour and Transport)</li> </ul>
2021/07- 2021/12	<ul style="list-style-type: none"> <li>▫ Creation of the rest facility</li> <li>▫ Adding desk and bench, bin and bicycle racks</li> <li>▫ Adding information boards</li> </ul>	35,000	<ul style="list-style-type: none"> <li>▫ See planning</li> </ul>
<b>Sum</b>		<b>EUR 40,000<sup>29</sup></b>	

<sup>25</sup> Please see Annex 13.

<sup>26</sup> For further information, please see <https://www.klimaschutz.de/radverkehr> (retrieved on 29.11.2020).

<sup>27</sup> For further information, please see: <https://www.bmvi.de/SharedDocs/EN/Articles/StV/Cycling/financial-assistance-to-promotion-of-cycling.html> (retrieved on 26.11.2020).

<sup>28</sup> For further information, please see: <https://www.revosax.sachsen.de/vorschrift/16735-RL-KStB> (retrieved on 26.11.2020).

<sup>29</sup> For a more detailed expense allocation, please see Annex 15.

### Action 3: Re-routing a segment

The aim of Action 3 is to lift untapped potential by taking advantage of location-specific recreational destinations. For this, we substitute the segment of the *GRL – cycle route* between Zwenkau and Böhlen by a new one. By guiding the cyclists on separated paths along the largest lake of the New Lakeland, Lake Zwenkau, and through an area of reforestation, we contribute to cyclists' safety and touristic experience. Turning the slogan of the *Green Ring Leipzig – region of short distance* – into reality, we significantly shorten the segment between Zwenkau and the train station in Böhlen. This gives potential to further develop this segment to a commuter path.

#### Current Situation

The *GRL – cycle route* connects in the south of Leipzig the two cities Zwenkau and Böhlen by passing the industrial area of Böhlen-Lippendorf with its lignite-fired power plant. From Zwenkau to the industrial area, the route runs on a separated bicycle path along the highly frequented state road S71. Once the industrial area is reached, there is no separate path anymore. This makes it unattractive from a touristic point of view. Whether passing through the industrial area is unattractive too, is debatable. What is clear from the perspective of everyday bicycle traffic between Zwenkau and the train station in Böhlen, is that the current segment is unnecessarily long. This is a problem because Böhlen is of high importance to commuters due to its direct train connection to Leipzig. There, trains to the main station of Leipzig run every 20 minutes and take between 20 to 25 minutes.

The current segment from Zwenkau to Böhlen is the only tarmaced one. However, there is an alternative with about 50% off-road. Compared to the current segment (8.3km), the off-road alternative (6.9km) is 1.4km shorter, measured from the crossroad of the main streets in Zwenkau. In terms of cycling time, the current way (27min) takes 6 minutes longer than the off-road alternative (21min)<sup>30</sup>. The composition of the alternatives path surface consists of 3.2km gravel<sup>31</sup> and 500m dirt. The width of the gravel section lies between 2m and 3m. The dirt section, however, is a single trail<sup>32</sup>.

Due to its surface, gravel is only suitable for all terrain bicycles and, thus, excludes some types of bicycles, e.g. road bikes. Irrespective of the type of bicycle, gravel slows down the speed compared to asphalt. Moreover, gravel is associated with a higher risk of flat tires. This is especially a problem for commuters. Nevertheless, people cycling along the *GRL – cycle route* need to be prepared for gravel sections as there are some other off-road sections along the *GRL – cycle route*, too. Due to its width of less than 1 m, the single trail section is not suitable for a family-friendly cycle route such as the *GRL – cycle route*, yet.

From a touristic point of view, the current version of the path is outdated. This is mainly because it passes only one of the 24 lakes in the Leipzig New Lakeland directly. When the *GRL – cycle route* was created in the late 90s, most of the lakes did not exist. However, the region underwent a transformation from a brown coal region to the New Lakeland. So, there is a big need for improvement, especially because several lakes are almost passed, already, e.g. Lake Zwenkau. With its size, landscape, harbor and opportunities for leisure, e.g. a boat ride, passing by Lake Zwenkau is a must nowadays. This potential has been

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<sup>30</sup> Please see Annex 17.

<sup>31</sup> Please see Annex 20.

<sup>32</sup> Please see Annex 21.



recognized by more recent cycle routes, e.g. the *New Lakeland - cycle route*. However, there is no cycle route passing by the south-west side of Lake Zwenkau<sup>33</sup>.

### ECO-CICLE input

What inspired us most to leverage the potential of Lake Zwenkau and the shorter gravel route is a statement from the ECO-CICLE best practice *The cycling plan* (ESP) saying: “promoting the regional and metropolitan cycling connections expanding the opportunities already available”. This encouraged us to develop an alternative segment for the *GRL – cycle route* between Zwenkau and Böhlen. As we claimed for Action 1 already, we want to kill two birds with one stone by addressing both bicycle tourists and locals, esp. commuters, as done by the *Vistula Cycling Route* (POL). Again, by facilitating the connection to public transport, i.e. the train station in Böhlen, we aim at increasing the proportion of cycling in modal split.

### Action

With this action we increase the touristic value by re-routing the *GRL – cycle route*<sup>34</sup>. With the new segment, it will be the first cycle route passing the south-west side of Lake Zwenkau. Moreover, increased value stems from routing through an area of reforestation instead of field and touching the industrial area of Böhlen-Lippendorf only instead of going through. In addition, the new segment will be shorter and safer. More than 95% of the new segment will be separated cycle paths. This will be beneficial for both cycle tourists and locals, esp. commuters to the train station in Böhlen. Except one crossing in Böhlen, the whole route is barrier-free. The one and only security relevant crossing of the federal highway B2 is bypassed thanks to an existing underbridge<sup>35</sup>.

Our goal is to have the new segment 100% tarmaced between Zwenkau and the train station in Böhlen. However, its realization by the end of ECO-CICLE is rather overambitious. Therefore, we split this action into four sub-actions (3.1 - 3.4) of which the first three will be realized within the ECO-CICLE project period. Action 3.1 is about planning. A feasibility study of the new segment has been carried out by the planning office *StadtLabor*, already. This includes planning of demand, prearrangement and basic design under the consideration of the identified potential of the *GRL - cycle route* (see Table 1). Currently, coordination for the implementation is underway. Driving forces are the *Green Ring Leipzig* and the two cities of Zwenkau and Böhlen. Once the involved stakeholders agreed on a letter of intent, permit planning and execution planning can be carried out.

In Action 3.2, the whole off-road part will be paved with a width of 3m. This includes distributing and rolling on of stone sand. Until this part will be tarmaced in Action 3.4, the paved surface will be a temporary solution. Meanwhile, in Action 3.3 the posts and signposts used on the current segment will be removed and placed on the new segment. As the new segment will be shorter than the previous one, the number of posts and signposts currently used will be enough for the new segment.

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<sup>33</sup> Please see Annex 18.

<sup>34</sup> Please see Annex 16.

<sup>35</sup> Please see Annex 19.



### Stakeholder

- City of Zwenkau
- City of Böhlen
- Green Ring Leipzig
- State offices for traffic and transport (LASuV)

### Timeframe, costs and financing

Time	Milestone	Estimated costs (€)	Financing
2021/01- 2021/06	Action 3.1 <ul style="list-style-type: none"> <li>▫ Planning the new segment: permit planning and execution planning</li> </ul>	50,000 <sup>36</sup>	▫ Improving regional economic structures <sup>37</sup> (Saxon State Ministry for Economic Affairs, Labour and Transport)
2021/07- 2022/03	Action 3.2 <ul style="list-style-type: none"> <li>▫ Widening of the whole off-road path to 3m</li> <li>▫ Pavement of the off-road part: distributing and rolling on of stone sand</li> </ul>	1,000,000 <sup>38</sup>	▫ See Action 3.1
2022/04	Action 3.3 <ul style="list-style-type: none"> <li>▫ Removal of signposts on previous segment</li> <li>▫ Signposting of new segment</li> </ul>	5,000	▫ See Action 3.1
Outlook	Action 3.4* <ul style="list-style-type: none"> <li>▫ Turning paved path into tarmaced path</li> </ul>		
<b>Sum</b>		<b>EUR 1,055,000</b>	

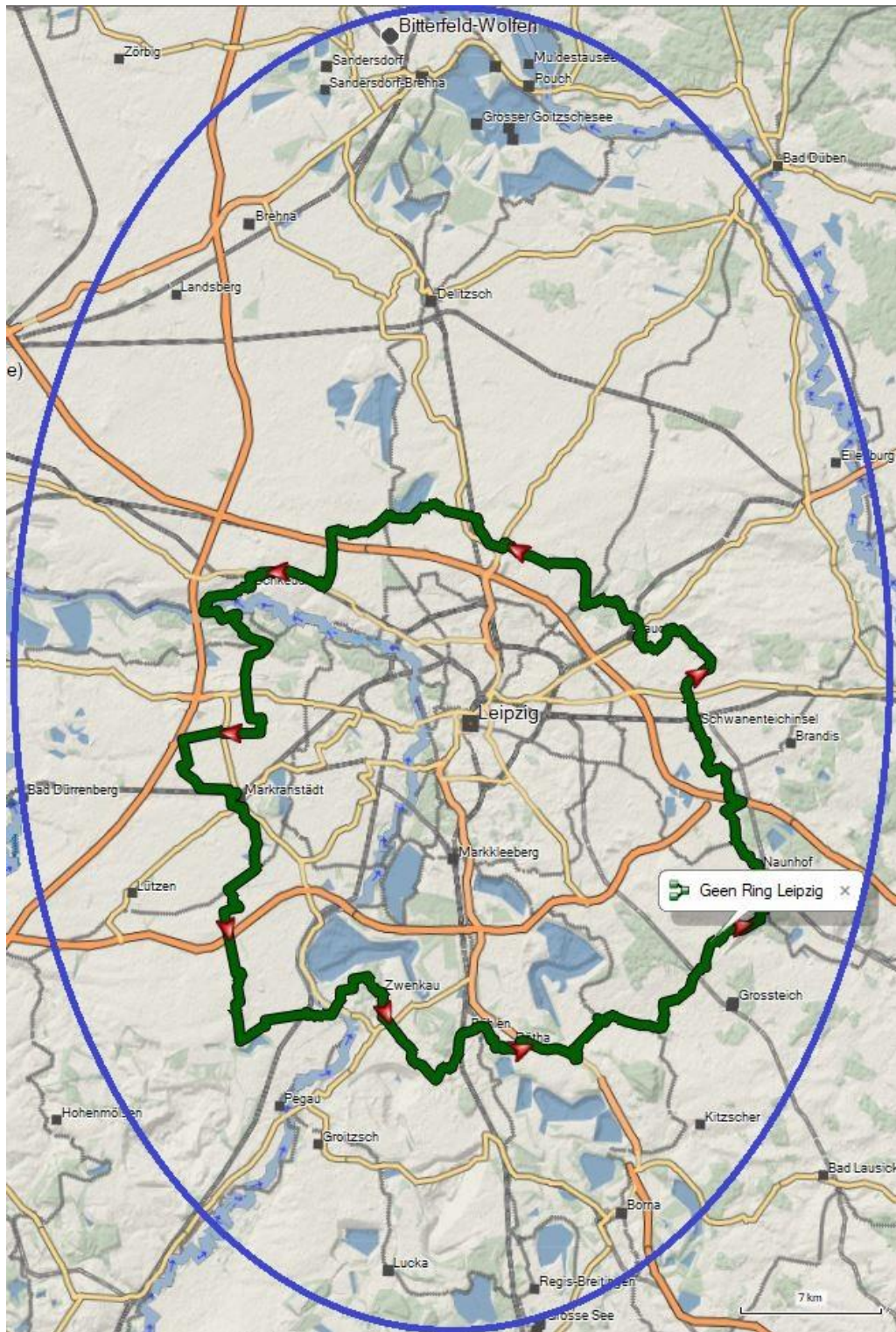
\* Out of the scope of the ECO-CICLE project.

<sup>36</sup> Estimate from the feasibility study by the planning office Stadtlabor.

<sup>37</sup> For further information, please see <https://www.revosax.sachsen.de/vorschrift/18031-GRW-Infra> (retrieved on 29.11.2020).

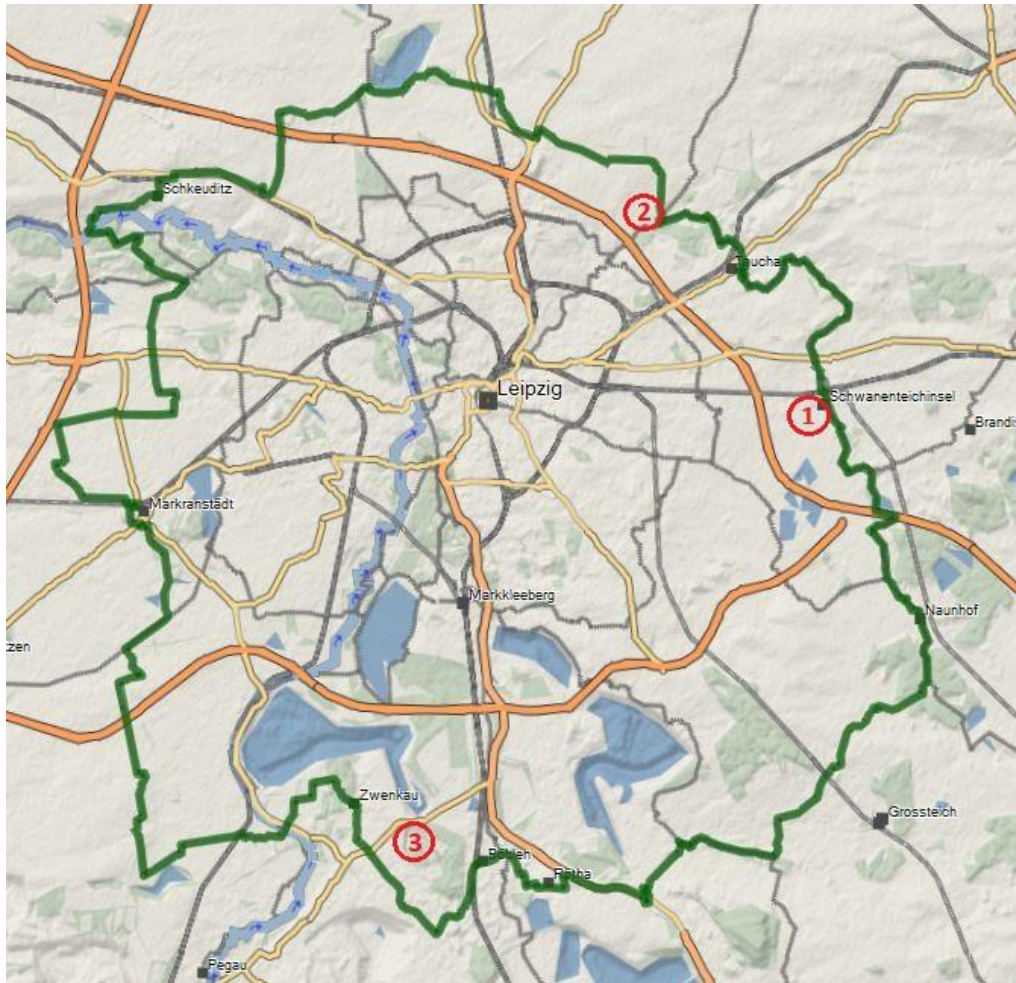
<sup>38</sup> Estimate from the feasibility study by the planning office Stadtlabor.

Annex

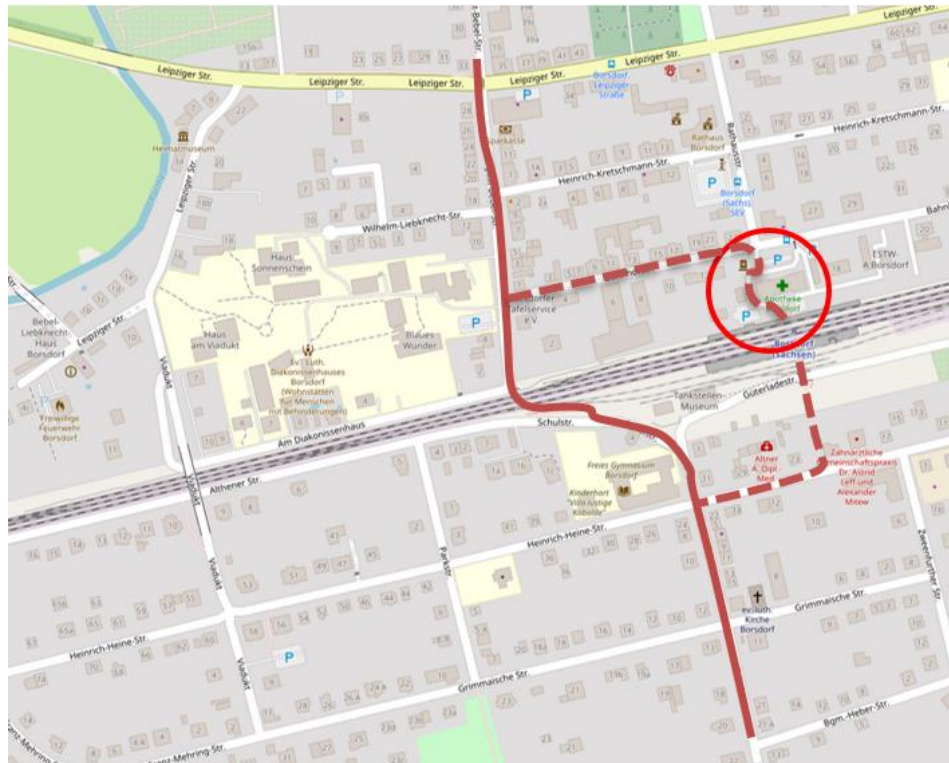


ANNEX 1: NEW LAKELAND AND THE GRL – CYCLE ROUTE.





**ANNEX 2: MAP OF THE GRL – CYCLE ROUTE AND THE THREE ACTIONS.**



**ANNEX 3: ACTION 1 – SIGNPOSTING (DASHED LINE) THE GRL – CYCLE ROUTE (SOLID LINE) AT THE TRAIN STATION BORSDDORF.**





ANNEX 4: SIGNPOST FOR GRL – CYCLE ROUTE AND BORSDDORF TRAIN STATION.



ANNEX 5: MISSING SIGNPOST FROM BORSDDORF TRAIN STATION TO GRL - CYCLE ROUTE.



ANNEX 6: TUBE MACHINE BY CONTINENTAL.<sup>39</sup>



ANNEX 7: TUBE MACHINE BY SCHWALBE.<sup>40</sup>

<sup>39</sup> <https://www.maiks-bikes.de/service-1/schlauchautomat/> (retrieved on 28.11.2020).

<sup>40</sup> <https://www.adfc-bw.de/marbach/schlauch-o-mat/> (retrieved on 28.11.2020).



ANNEX 8: BICYCLE REPAIR STATION.<sup>41</sup>



ANNEX 9: BICYCLE REPAIR STATION IN ACTION.<sup>42</sup>

<sup>41</sup> [https://www.zvw.de/lokales/remm-murr-kreis/36-reparaturstationen-nehmen-radlern-im-remm-murr-kreis-die-angst-vor-pannen\\_arid-154999#detailimages](https://www.zvw.de/lokales/remm-murr-kreis/36-reparaturstationen-nehmen-radlern-im-remm-murr-kreis-die-angst-vor-pannen_arid-154999#detailimages) (retrieved on 28.11.2020).

<sup>42</sup> <https://www.ibombo.eu/portfolio/shopping-mall-2/> (retrieved on 28.11.2020).



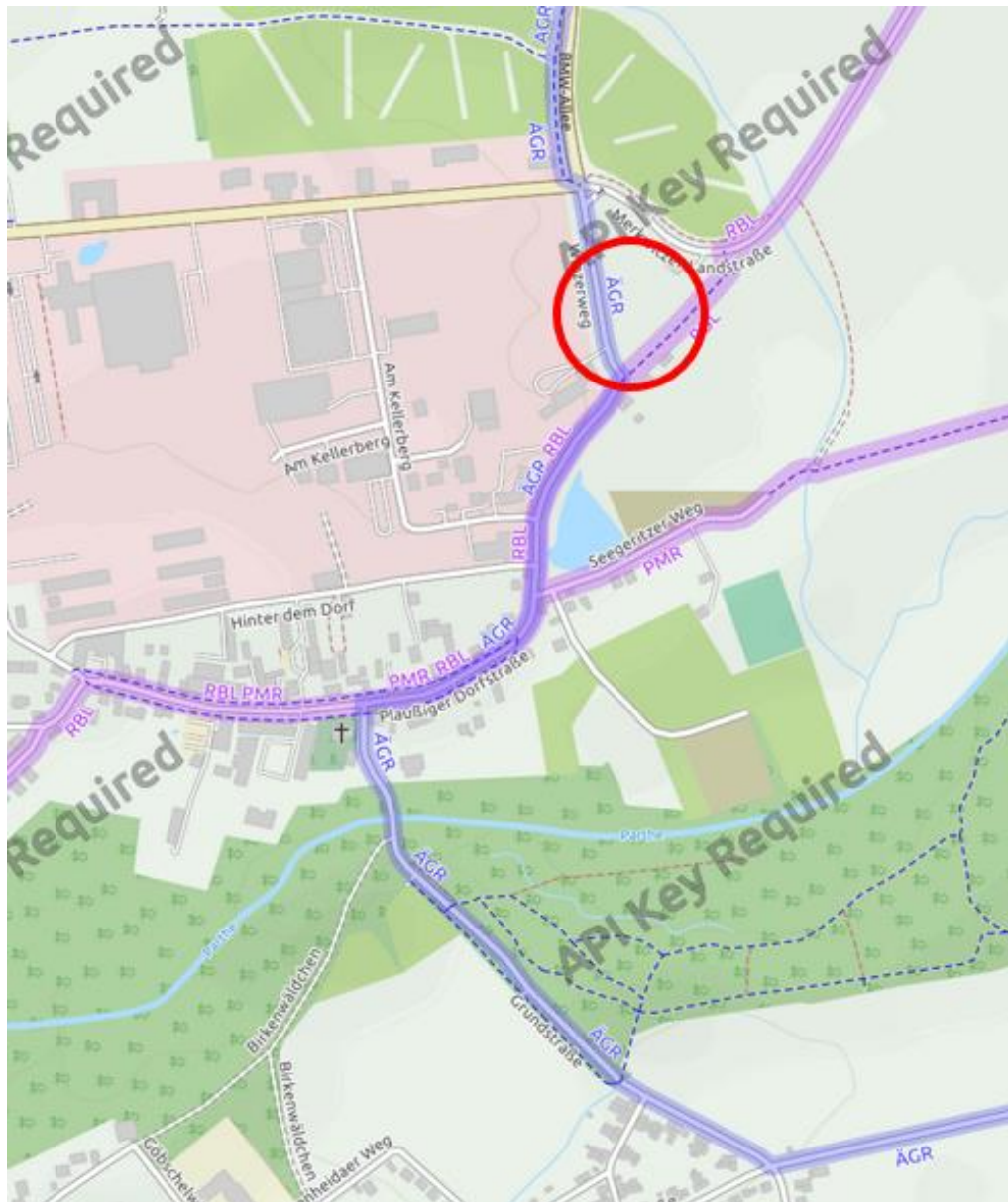
Position	Unit	Value	Reference
Signpost	p max	47.00€	<a href="https://www.schilder-versand.com/p/individuelles-zusatzzeichen-mit-rand-und-text-nach-ihren-angaben-1-farbig-schwarz-bedruckt-14959">https://www.schilder-versand.com/p/individuelles-zusatzzeichen-mit-rand-und-text-nach-ihren-angaben-1-farbig-schwarz-bedruckt-14959</a>
Signpost	p min	23.00€	<a href="https://www.schilder-versand.com/p/vz-1012-32-zusatzzeichen-radfahrer-absteigen-4533">https://www.schilder-versand.com/p/vz-1012-32-zusatzzeichen-radfahrer-absteigen-4533</a>
Signpost	n max	7	
Signpost	n min	5	
Post	p max	175.00€	<a href="https://www.schilder-versand.com/p/rohrpfosten-mit-fussplatte-nach-ivz-norm-zum-aufd uebeln-9650">https://www.schilder-versand.com/p/rohrpfosten-mit-fussplatte-nach-ivz-norm-zum-aufd uebeln-9650</a>
Post	p min	158.00 €	<a href="https://www.schilder-versand.com/p/rohrpfosten-mit-fussplatte-nach-ivz-norm-zum-aufd uebeln-9650">https://www.schilder-versand.com/p/rohrpfosten-mit-fussplatte-nach-ivz-norm-zum-aufd uebeln-9650</a>
Post	n max	6	
Post	n min	3	
Mark-up	Material	1,15	Estimate
Mark-up	Labor	1,3	Estimate
Costs	c min	956.80€	
Costs	c max	2,061.61€	
<b>Costs</b>	<b>c rounded</b>	<b>2,000.00€</b>	

ANNEX 10: COST ESTIMATION FOR ACTION 1 – SIGNPOSTING.

Position	Unit	Value	Reference
Table/benchcombination	p max	1704.08€	<a href="https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung">https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung</a>
Table/benchcombination	p min	1425.62€	<a href="https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung">https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung</a>
Table/benchcombination	n min	1	
Bicycle racks	p	250.00€	<a href="https://www.resorti.de/fahrradanlehnuegel-galaxy">https://www.resorti.de/fahrradanlehnuegel-galaxy</a>
Bicycle shed (Reconstruction vs. New construction)	p new	6600.00€	<a href="https://www.resorti.de/fahrradhaus-bikestop-holz">https://www.resorti.de/fahrradhaus-bikestop-holz</a>
Mark-up	Material	1,15	Estimate
Mark-up	Labor	1,3	Estimate
Tube machine	p	2500.00€	Estimate
repair station	p	3000.00€	Estimate
Costs	c min	17,042.62€	
Costs	c max	17,321.08€	
<b>Costs</b>	<b>c rounded</b>	<b>17,000.00€</b>	

ANNEX 11: COST ESTIMATION FOR ACTION 1 – RECONSTRUCTION AND EQUIPMENT.

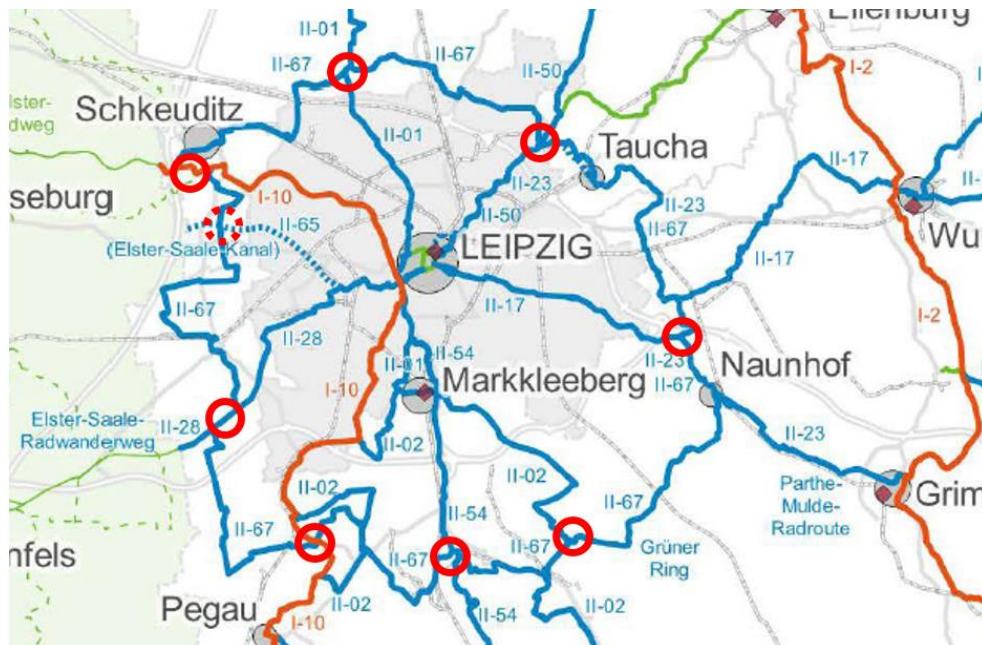




**ANNEX 12:** ACTION 2 AT THE INTERSECTION OF THE GRL - CYCLE ROUTE AND THE BERLIN-LEIPZIG CYCLE ROUTE.



ANNEX 13: MEADOW WITH FLOWERS AND FRUIT TREES.



ANNEX 14: POTENTIAL REST FACILITIES FOLLOWING THE PILOT FACILITY OF ACTION 2.

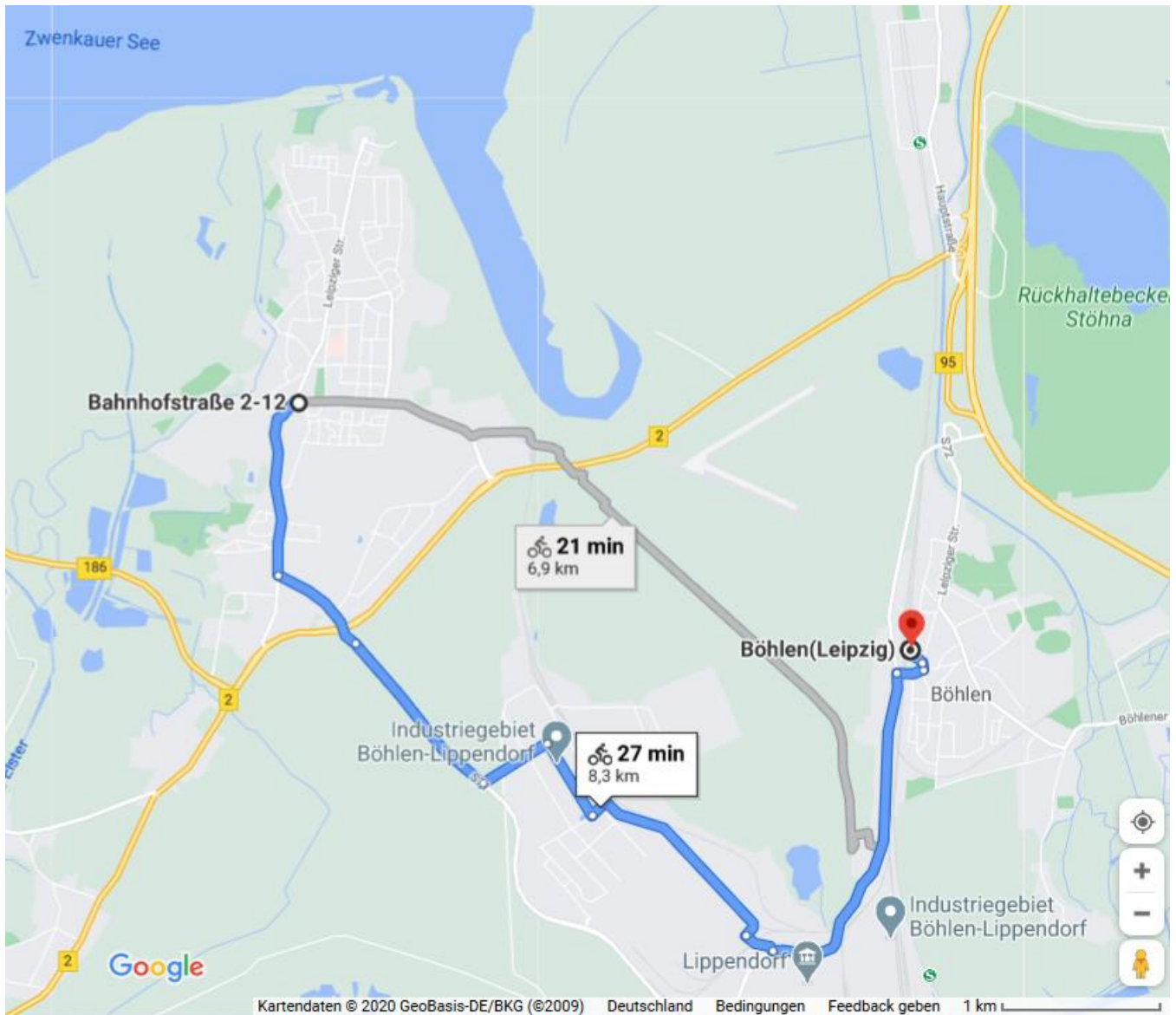
Position	Unit	Value	Reference
Signposts	p max	47.00€	<a href="https://www.schilder-versand.com/p/individuelles-zusatzzeichen-mit-rand-und-text-nach-ihren-angaben-1-farbig-schwarz-bedruckt-14959">https://www.schilder-versand.com/p/individuelles-zusatzzeichen-mit-rand-und-text-nach-ihren-angaben-1-farbig-schwarz-bedruckt-14959</a>
Signposts	p min	23.00€	<a href="https://www.schilder-versand.com/p/vz-1012-32-zusatzzeichen-radfahrer-absteigen-4533">https://www.schilder-versand.com/p/vz-1012-32-zusatzzeichen-radfahrer-absteigen-4533</a>
Signposts	n	8	
Posts	p	175.00€	<a href="https://www.schilder-versand.com/p/rohrpfosten-mit-fussplatte-nach-ivz-norm-zum-aufduebeln-9650">https://www.schilder-versand.com/p/rohrpfosten-mit-fussplatte-nach-ivz-norm-zum-aufduebeln-9650</a>
Posts	n	4	
Information boards	p min	254.00€	<a href="https://www.lehrpfad-service.de/schautafeln.html">https://www.lehrpfad-service.de/schautafeln.html</a>
Information boards	p max	469.00€	<a href="https://www.lehrpfad-service.de/schautafeln.html">https://www.lehrpfad-service.de/schautafeln.html</a>
Information boards	n	3	
Table/benchcombination	p max	1704.08€	<a href="https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung">https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung</a>
Table/benchcombination	p min	1425.62€	<a href="https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung">https://www.ziegler-metall.de/bank-tisch-kombination-como-mit-holzbelattung</a>
Table/benchcombination	n min	1	
Bicycle racks	p	250.00€	<a href="https://www.resorti.de/fahrradanlehnbugel-galaxy">https://www.resorti.de/fahrradanlehnbugel-galaxy</a>
Rest facility	p	6600.00€	<a href="https://www.resorti.de/fahrradhaus-bikestop-holz">https://www.resorti.de/fahrradhaus-bikestop-holz</a>
Rest facility: Mark-up	Design	3	estimate
Rest facility: Mark-up	Material	1,15	estimate
Rest facility: Mark-up	Labor	1,3	estimate
Costs	c min	32,922.62€	
Costs	c max	34,038.08€	
<b>Costs</b>	<b>c rounded</b>	<b>35,000.00€</b>	

ANNEX 15: COST ESTIMATION FOR ACTION 2 – REST FACILITY AND EQUIPMENT.





ANNEX 16: ACTION 3.



ANNEX 17: COMPARISON BETWEEN A TARMACED (BLUE) AND AN OFF-ROAD WAY.<sup>43</sup>

43

[https://www.google.com/maps/dir/51.2172288,12.3270735/B%C3%B6hlen\(Leipzig\),+B%C3%B6hlen/@51.218151,12.2859041,13.31z/data=!4m1!4m9!1m0!1m5!1m1!1s0x47a6fb31b39c0779:0x3bfac270dabea254!2m2!1d12.3823626!2d51.2032559!3e1!5i1](https://www.google.com/maps/dir/51.2172288,12.3270735/B%C3%B6hlen(Leipzig),+B%C3%B6hlen/@51.218151,12.2859041,13.31z/data=!4m1!4m9!1m0!1m5!1m1!1s0x47a6fb31b39c0779:0x3bfac270dabea254!2m2!1d12.3823626!2d51.2032559!3e1!5i1)





**ANNEX 18:** SOUTH-EAST SIDE OF LAKE ZWENKAU.



**ANNEX 19:** UNDERBRIDGE B2 BETWEEN LAKE ZWENKAU AND AIRPORT FOR SPORTS AEROPLANES.



**ANNEX 20:** PATH FROM UNDERBRIDGE B2 TOWARDS BÖHLEN.



**ANNEX 21:** LIGNITE-FIRED POWER PLANT LIPPENDORF CLOSE TO BÖHLEN.