



## WP.T3 - D.T3.2.3

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State of the Art Report about mobility  
problems and policy challenges within ETP  
follower regions - Municipality of Maribor

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2021



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Coordinating partner	<i>UM - University of Maribor</i>
Contributors	<i>Mojca Doberšek, Klavdija Gornik, Uroš Rozman (all Regionalna razvojna agencija za Podravje - Maribor)</i>
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## 1. Introduction

Remote regions in central Europe share the same risks and issues related to the fact that they are located at the periphery of main transport networks. Inadequate and under-used services, excessive costs, lack of last-mile services and proper intermodality, poor communication and information to users and car commuting are some of the challenges that many central European regions face.

The SMACKER project addresses these disparities and promotes public transport and mobility services that are demand-responsive and that connect local and regional systems to main corridors and transport nodes.

Within SMACKER mobility issues related to peripheral and rural areas, main barriers are assessed and addressed and solutions drawn on the best international know-how are provided. SMACKER promotes demand-responsive transport services to connect local and regional systems to the main transport corridors and nodes. Soft measures (e.g. behaviour change campaigns) and hard measures (e.g. mobility service pilots) are used to identify and promote eco-friendly solutions for public transport in rural and peripheral areas, with the aim of achieving more liveable and sustainable environments and better integration of population to the main corridors. SMACKER helps local communities to re-design their transport services according to user needs, through a coordinated co-design process between local/regional partners and stakeholders; SMACKER also encourages the use of new transport services through motivating and incentivizing campaigns. The direct beneficiaries of the actions are residents, commuters and tourists.

Participation reflects the overall integration of citizens and groups in planning processes and policy decision-making and consequently the sharing of power. In particular, transport planning and transport relevant measures are often the subject of controversial discussions within the urban community. The concept of Sustainable Urban Mobility Planning has established the principle that the public should be included from the very beginning of the transport planning process and not only when the plans are largely completed and only minor amendments can be carried out. For that reason, public authorities need to open-up debate on this highly specialised and complex subject area and make participation a part of the planning process. In order to ensure participation throughout the process, the development of an engagement strategy would be necessary.

This deliverable “State of the Art Report” on mobility problems and policy challenges within ETP follower regions is the starting point for a better knowledge of the 10 selected Smacker Enlarged Transfer Programme (ETP) partners’ sustainable mobility challenges. The scope of these analysis is to map the needs, problems and expectations of each ETP follower region in low carbon mobility planning. Moreover, it defines the roles of ETP followers and policy leverages. It paves the way for local Action plans in ETP follower regions.



## 2. Project's area description

Pohorje is a mountain range in the eastern part of Slovenia. It is known as a tourist destination for sports and recreational activities that are available all year round - hiking, biking and skiing. Most of the tourist offer is concentrated in the 4 main tourist centres: Bellevue, Areh, Trije kralji and Rogla, which develop both seasonal (winter) and year-round tourism. Term Mariborsko Pohorje is used when referring to Bellevue and Areh together. One of the major difficulties of the Pohorje area is the lack of accessibility. For this reason, the area's municipalities have joined together in the Partnership for Pohorje. Within the framework of the Partnership, the Strategy for the Development of the Pohorje Region was prepared in autumn 2020. The strategy is the key document for sustainable and coherent development of Pohorje under its own and common brand name, promoting both year-round and winter tourism (Strategy for development of Pohorje, 2020).

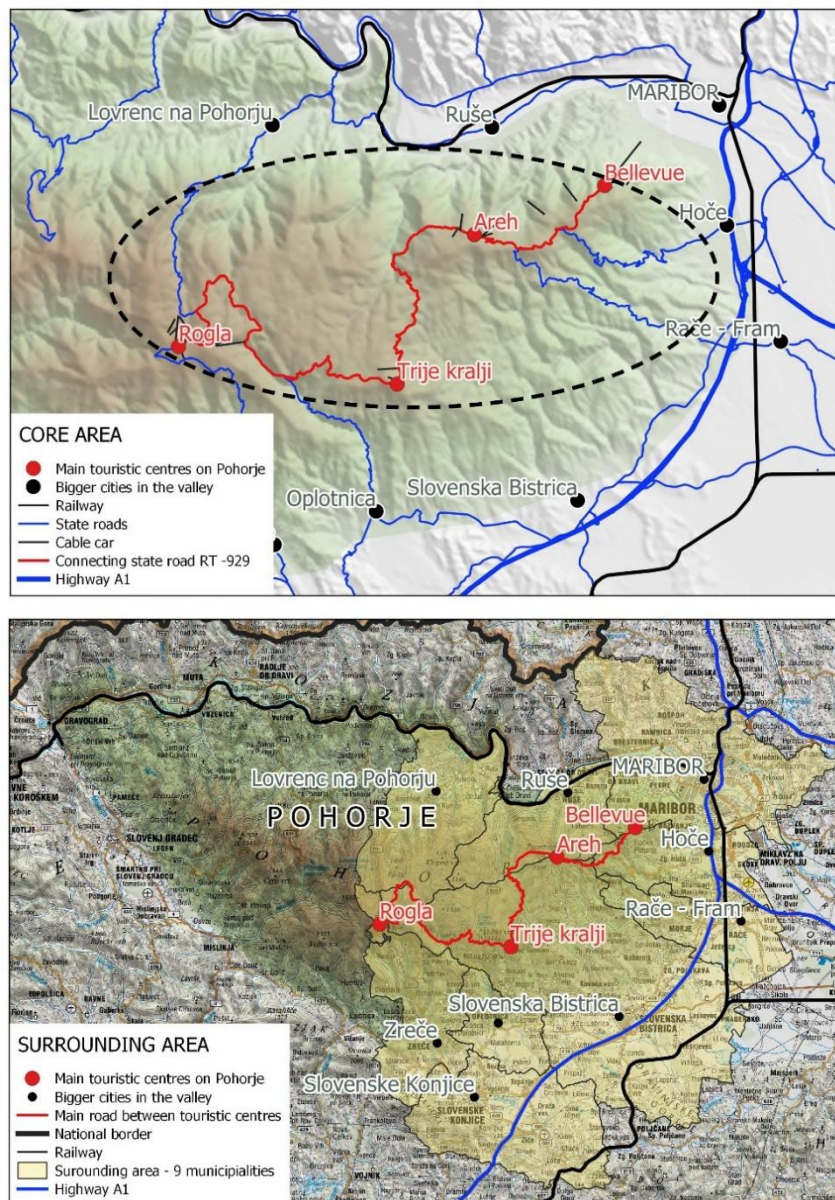
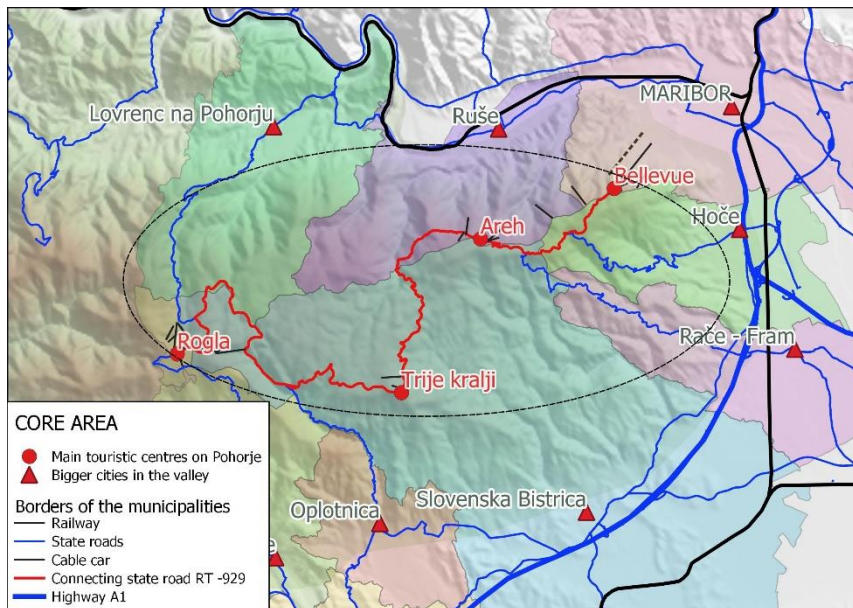


Figure 1: Map representation of the core pilot area (top) of the ETP as well as the surroundings (bottom)



The core area of the Eastern Pohorje includes 4 tourist centres - Bellevue, Areh, Trije kralji and Rogla, with road connection between them. The 4 tourist centres are located in different municipalities:

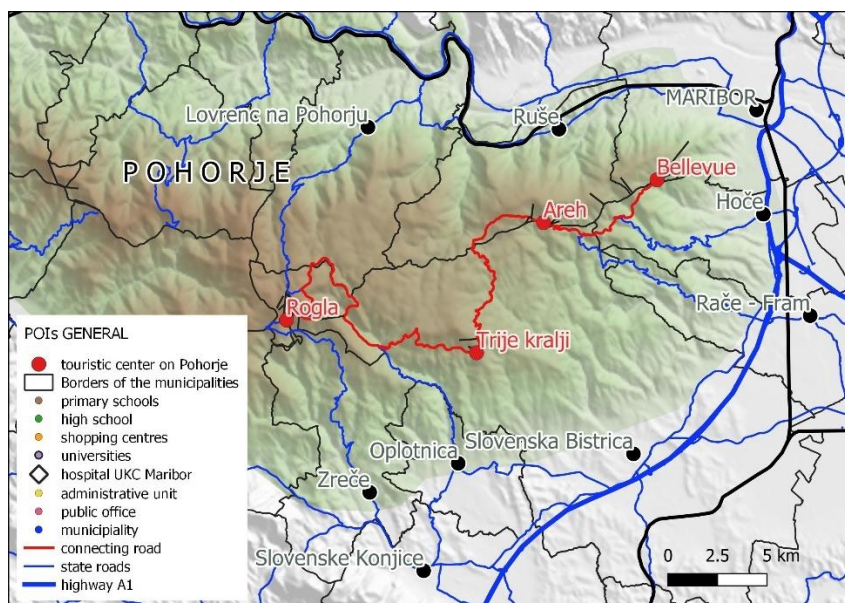
- Bellevue - Municipality of Maribor, Municipality of Hoče-Slivnica and Municipality of Ruše
- Areh - Municipality of Ruše and Municipality of Slovenska Bistrica
- Trije Kralji - Municipality of Slovenska Bistrica
- Rogla - Municipality of Zreče



**Figure 2: Municipalities of the core area**

Pilot area is essentially a tourist area with very low population density, with only 783 inhabitants, of which 76.9% are between 15 and 65 years old, and 52.1% of the population are men. The wider area includes 9 rural municipalities of the eastern Pohorje region: Lovrenc na Pohorju, Ruše, Municipality of Maribor, Hoče - Slivnica, Rače - Fram, Slovenska Bistrica, Oplotnica, Slovenske Konjice and Zreče. The combined area covers 855 km<sup>2</sup>, with the population of 190,000 people. The average population density is 222.6 people per km<sup>2</sup>, but the density is not homogeneous. The density is much higher in the urban centres of the lowlands and much lower on the mountain range itself. The municipalities are well connected in terms of infrastructure with rail and road links (including motorway). In addition, a cable car connects the city of Maribor with Bellevue on Pohorje.

Most of the infrastructures and points of interest (POI) for the local population and tourists (hospital, shopping centres, educational institutions, public administration, etc.) are located in the urban centres at the foot of Pohorje.



**Figure 3: Points Of Interest (POIs) of the area**

The city of Maribor is the largest urban centre in this area, other small centres are: Zreče, Hoče, Ruše and Slovenska Bistrica. Primary schools are located in each municipality, secondary schools are located in urban centres (Maribor, Ruše, Slovenska Bistrica, Slovenske Konjice and Zreče). In the wider area, 14,830 children are enrolled in primary schools along with 10,805 upper secondary students and 11,353 students at the University of Maribor. The University Medical Centre (UKC) Maribor has a capacity of 1,316 hospital beds (<https://www.ukc-mb.si/en/>). The total area of shopping centres is 112,904 m<sup>2</sup>, most of which are concentrated in Maribor.

Year-round tourism is of particular importance to the region's economy, as shown in the Table 1.

**Table 1: Number of overnight stays in 2019/2020 at Pohorje touristic centres and number of sold tickets.**

	NUMBER OF OVERNIGHT STAYS		NUMBER OF TICKETS SOLD	
	Winter season (Dec, Jan, Feb)	Other months	Ski tickets	Bike park tickets
Bellevue	18,960	11,903	54,338	8,792
Areh	588	954		
Trije kralji	10,619	10,582	17,443	-
Rogla	69,619	63,031	10,421	1,024
<b>TOTAL</b>	<b>80,844</b>	<b>86,470</b>	<b>173,202</b>	<b>9,816</b>

*Detailed data about gender and age of tourists are not collected.*

In the preCOVID season of 2019/20, Pohorje recorded a similar number of overnight stays in winter (80,844) as in summer (86,470). The most overnight stays were on Rogla and Bellevue. By far the most ski tickets are sold on Rogla, followed by Mariborsko Pohorje (Bellevue + Areh) and Trije kralji. The most popular



destination for mountain bikers is Mariborsko Pohorje with its Bike park. We can conclude that Rogla is the most popular ski centre, while Mariborsko Pohorje is the most popular mountain bike centre. COVID-19 epidemic has negatively impacted number of overnight stays as shown in table below.

**Table 2: Overnight stays in municipalities in pilot area in last three years [11]**

Municipality	NUMBER OF OVERNIGHT STAYS		
	2018	2019	2020
Hoče - Slivnica	85,371	56,658	35,933
Maribor	466,620	454,004	196,397
Ruše	13,680	9,349	2,571
Slovenska Bistrica	50,491	49,138	39,091
Zreče	274,228	278,331	233,790

### 3. Description of the mobility demand and needs (relations and attractors poles)

In Slovenia, Maribor and 4 municipalities of Pohorje (Hoče-Slivnica, Zreče, Slovenska Bistrica, Slovenske Konjice) for which data are available, the car was the main mode of transport in 2017 with 69-80%, followed by walking (9-21%), public transport (5-6%) and bicycles (4-5%). For the Pohorje region, the use of private cars is 10% higher than the Slovenian national average. This is also noticed by a 12% lower average share of walking. The results are understandable considering the lack of public transport, the long distances and the scattered settlements.

Table 3: Comparison of modal share.

	MODAL SHARE		
	Slovenia	Maribor	Eastern Pohorje
Personal vehicles (car)	70%	69%	80%
Public transport	5%	6%	6%
Bicycle	4%	4%	5%
Walking	21%	21%	9%

The motorisation rate in the core area is lower than the national average (in 2020 it was 506, while the national average was 556) and car dependency is high. The main reasons for car dependency are mountainous terrain, lack of public transport, distances to urban centres and others. The need for mobility is reflected in the high volume of traffic on the roads and daily commuting.

The map of average daily traffic shows that most of the traffic is concentrated at the foot of the Pohorje along the A1 motorway. The roads connecting the areas of Pohorje with the motorway are also quite congested (Slovenske Konjice - Zreče; Hoče - Bellevue; Ruše - Lovrenc na Pohorju and the regional road Slovenska Bistrica - Maribor). The least traffic is on the roads on Pohorje itself, with less than 1,000 cars per day (between 35 and 490). The reason for this is the lack of connections between the tourist centres on the mountain top, the poor condition of the roads and the low population density.

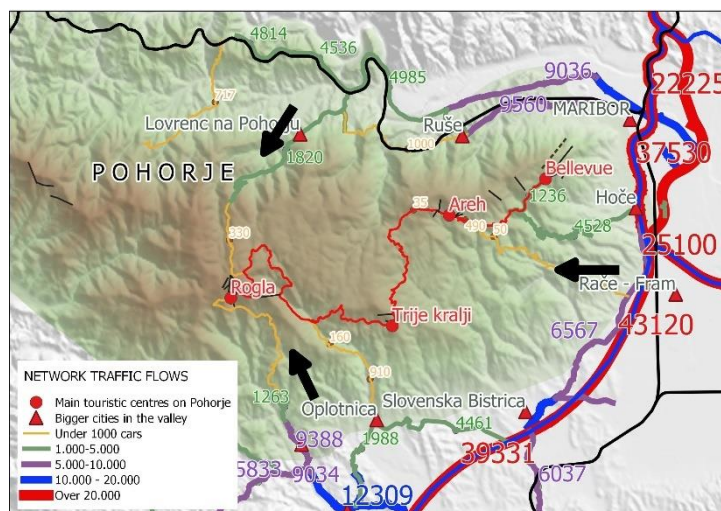
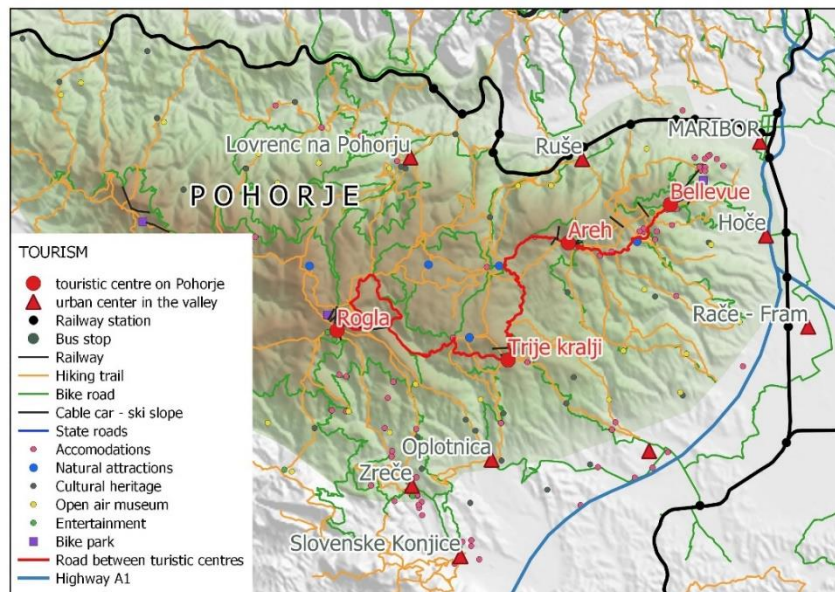


Figure 4: Annual average daily traffic

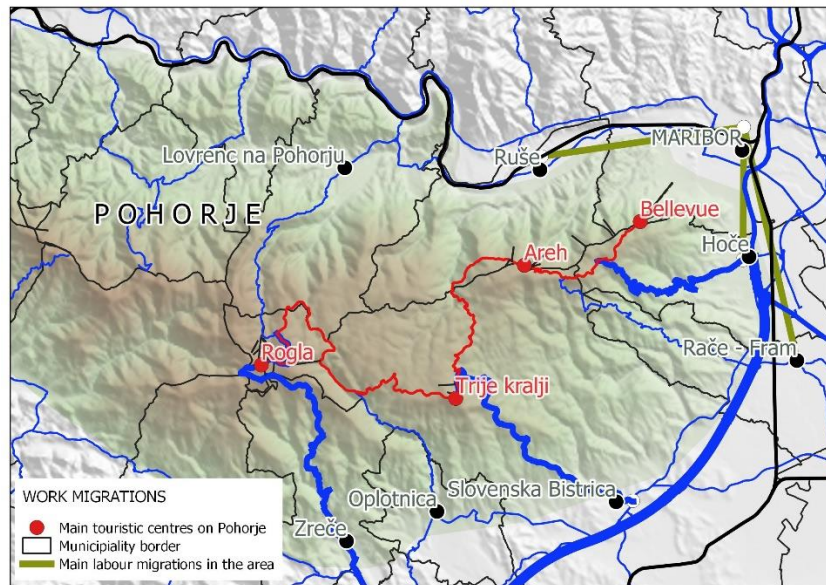


The tourist map shows that East Pohorje has many biking and hiking trails. The most important natural sites and attractions are located on the top of Pohorje - the primeval forests of Šumik and natural lakes and waterfalls (Šumik waterfalls, Lake Črno jezero, Skalca waterfall, Lake Tiho jezero). There are also other cultural and recreational attractions (two sledge slopes, "Pot med krošnjami" trail, Space technology centre in Vitanje) and other sports facilities (2 bike parks, 3 ski centres). The southern side of Pohorje has more tourist capacity than the northern side, but the tourist centres are not connected. Most tourists on Pohorje are seniors (50-70 years old) and middle-aged people (35-50) who stay either as singles, couples or with friends. They are mostly green explorers who seek relaxation and want to discover the natural and cultural attractions of Pohorje.



**Figure 5: Touristic attractions in the area**

The map (Figure 6 below) of labour migrations (commuting) shows that most commuters commute between the Municipality of Maribor (MOM), with where the most jobs are located, and neighbouring municipalities: Hoče (50.9%), Rače - Fram (46.3%) and Ruše (48.1%).



**Figure 6: Labour migrations (commuter traffic) in the pilot area**

There are significantly fewer commuters between MOM and Lovrenc na Pohorju (38%), between Slovenska Bistrica and Oplotnica (20.8%) and between MOM and the following municipalities: Oplotnica, Zreče, Slovenske Konjice and Slovenska Bistrica. As seen, most of the connections are within municipalities and between neighbouring municipalities. There are fewer connections between municipalities on the northern and southern side of Pohorje.



## 4. Description of the public transport services and related multimodal accessibility

### 4.1. PT transport supply

There are several public transport options in the selected area: bus lines (regular lines and seasonal lines for skiers, bikers, and hikers), railway transport and cable car Mariborska Vzpenjača. There are no on-demand mobility services or car sharing options.

The cable car operates daily on the hour between 7am and 6pm. It provides transportation for people and cyclists with their bikes as part of the Pohorje Bike Park. It is well coordinated with the Maribor bus network (line no. 6) of the city public bus system.

The most developed part of the public transport system are the bus lines, which are provided by two operators. There are some regular bus lines and some seasonal lines. There are five regular bus lines connecting destinations on the top of the Pohorje with centres in the lowlands. The lines are:

1. Maribor - Pohorska Vzpenjača (city line 6, which connects the centre of Maribor with the cable car, operator Marprom), which runs very frequently (every 20 minutes on weekdays, every half hour on weekends and holidays). The bus is equipped to carry bicycles.
2. Spodnje Hoče - Hočko Pohorje - Bolnica is a line that runs four times a day on weekdays. There is no connection on weekends and holidays (operator Arriva).
3. Slovenska Bistrica - Planina pod Šumikom (Trije kralji) runs three times a day on school days (operator Arriva).
4. Oplotnica - Podgrad na Koblju runs once a day on school days (operator Arriva).
5. Fala grad - Lovrenc na Pohorju runs 6-9 times a day on weekdays (more frequently on school days, less frequently during school holidays). It does not run on weekends and holidays (operator Arriva).

On the other hand, there is no line connecting the tourist centres on the top of Pohorje.

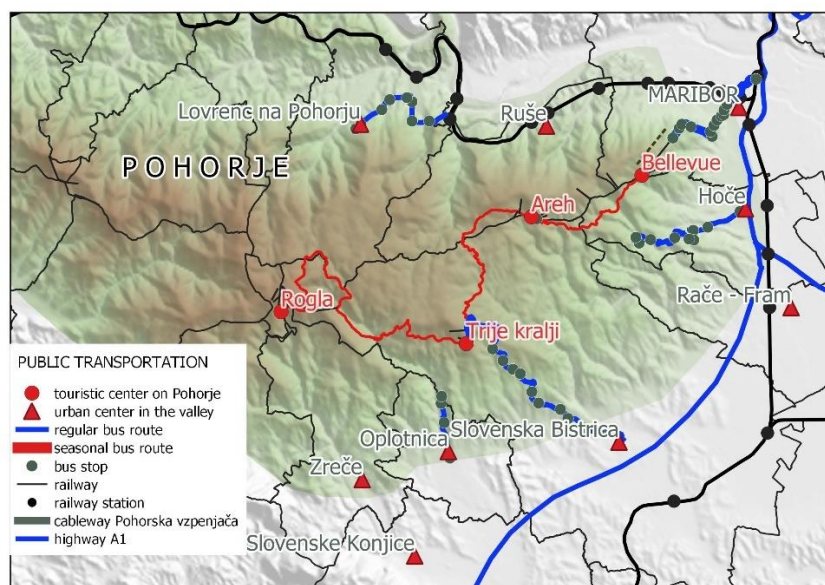


Figure 7: Public transportation in the area



From the overview of public transport services, it appears that there are poor connections, especially on days when there is no school. There are also no connections between tourist centres. In addition, the tourist centres are often not the final destination of the available public transport. Most buses are also not suitable for transporting bicycles.

Seasonal lines are designed to meet the needs of the winter (skiing) and summer (hiking and biking) seasons. In the winter season 2020/21 there were 3 lines in operation:

1. Ski bus Slovenske Konjice - Zreče - Rogla, which is aimed at skiers and hotel guests from Terme Zreče and hotels in Rogla. The regular line is not feasible due to low demand.
2. Special summer lines of Marprom: 2 lines connecting Ruše (in the north), Areh, Bellevue and Hoče (in the south) over the ridge of Pohorje. They operate in July and August on Saturdays, Sundays and holidays. They have been running for 3 consecutive seasons (2018, 2019, 2020). Depending on weather conditions, they run 5 times a day (between 7:30am and 4:30pm). The transportation is primarily aimed at mountain bikers and hikers during the summer season to allow them to reach the trailhead or return home. The line averages 1,000 passengers per season. The line operates with a combined vehicle that can accommodate 8 people, and a trailer for bikes. The fare is 3€ per passenger, 1€ for children (6 - 15 years), and bicycles are carried free of charge. The bus has stops at well-known tourist places on Pohorje and the transport is subsidised by 2 municipalities (Ruše and Hoče-Slivnica) and the local tourist association (Touristic Society of caterers of Pohorje).
3. The Bellevue - Areh - Bellevue ski bus is a line that transports skiers from one part of the ski slopes of Mariborsko Pohorje to the other (Bellevue to Areh) when there are no ski connections between the two due to lack of snow. The distance is 7.5 km. The line operates on weekdays and weekends. On weekdays it runs 8 times a day (between 9:15 am and 3:45 pm) and on weekends it runs 16 times (between 9 am and 4:15 pm). Interest in the line is relatively high. In past seasons, a single bus has been used on weekdays, and two (sometimes three) on weekends and during the school winter break. The line is funded by Marprom and is free for ski pass holders. In the 2020/21 season, the line was not operated.

Planned (but not yet implemented due to COVID-19) seasonal lines for winter 2020/21:

1. Ski bus Ruše - ski slope Pisker would run from the centre of Ruše to the ski slopes of Areh. It would be funded by the Municipality of Ruše for the 2021 season on weekends and holidays, as well as during school holidays. However, due to COVID -19 restrictions, the line has not started.
2. Ski and-hiking bus Oplotnica - Slovenska Bistrica - Trije kralji - Osankarica is an initiative for a free bus for skiers, hikers and schools for sports activities, which was offered by the tourism company Pohorje turizem. The line would run in 3 winter months (December, January and February / March) in the morning to Trije kralji and back in the evening. The bus would carry 50 passengers and would be free for ski pass holders (including a hot meal). The bus would also be free for hikers. The cost of the line was estimated at 15,000 EUR for a period of 3 months. The amount would be divided between the municipalities of Oplotnica and Slovenska Bistrica (1/3), businesses (1/3) and tourist operators (1/3). Due to COVID -19 restrictions, the line could not be implemented, but it is planned for the next season. The introduction of a summer line for hikers and cyclists is also being considered.



Previous experience with shuttles - the idea of a shuttle bus on Pohorje is not new. At the turn of the century there was a shuttle bus that ran between Rogla and Areh. It ran for two winter seasons (during the winter school holidays - for 14 days) and the costs were shared between the company Unitur on Rogla and the manager of Mariborsko Pohorje. The ride was not comfortable enough (bad road conditions) and the centres competed for guests instead of cooperating. The shuttle service was discontinued.

Two railway lines run along the foothills of Pohorje (see Figure 8 below): the regional single-track line along the northern side (on the right bank of the Drava river ), connecting Maribor - Limbuš - Bistrica ob Dravi - Ruše - Fala - Ruta - Ožbalt and further-on to Dravograd), and the main line along the southern side, connecting Maribor - Hoče - Orehova vas - Rače - Pragersko - Slovenska Bistrica - Poljčane. The northern line runs much closer to the mountain and offers better accessibility. However, the northern line from Maribor via Ruše to Dravograd runs only 4 - 5 times a day (on weekdays), and there is no connection on weekends. It is possible to take a bicycle on the train. On the southern route, the stops are further away from the Pohorje, so they do not play a major role. With planned bus connections, the train would become more important. The main potential is at the stations Slovenska Bistrica, Hoče and Maribor. The line between Poljčane and Maribor runs frequently (19 times on weekdays and 10 - 12 times on weekends). Some of the trains allow the transport of bicycles.

## 4.2. Accessibility

There are few bus stops in the core area, especially in the tourist centres. However, each tourist centre has at least one official bus stop, and all stops are easily accessible as they are located on the main roads. However, the distances between bus stops are considerable (Bellevue - Areh 7km, Areh - Trije kralji 11.8km, Trije kralji - Rogla 20.4km). There are no stops in between (Osankarica, Koča na Pesku,). In case of low traffic, it is possible for the bus/shuttle to stop outside the designated stops. The main routes for access to Pohorje have many bus stops, often located on the main roads, the distances between them range from 0.6 to 2.6 km.

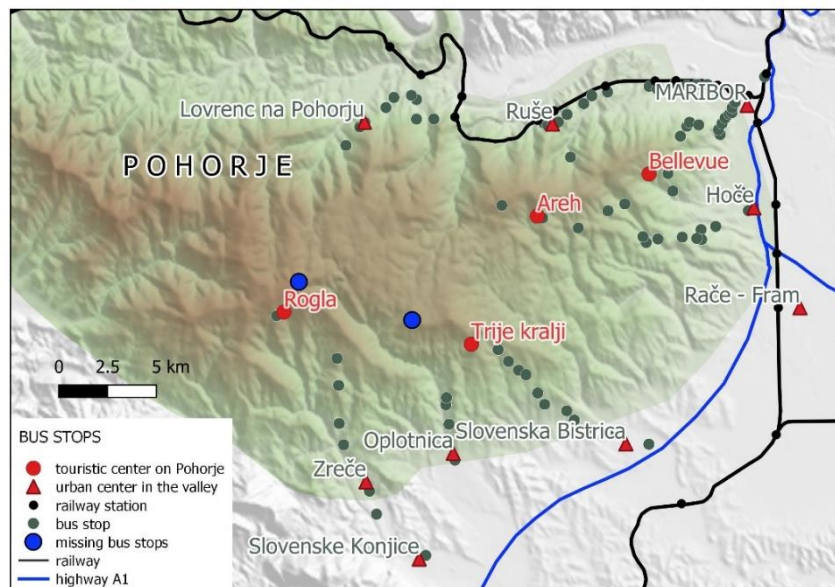


Figure 8: Bus stops in the core area



The map of the time needed to get to the tourist centres by car shows that it makes more sense to use the connecting roads on the top of Pohorje instead of descending to the valley using main roads and ascending again. The distances are much shorter however the road is into in proper condition making the journey only 12 minutes shorter in comparison to journey on main roads in the valley. It also has to be mentioned that direct travel between tourist centres is at the moment only possible with cars, motorcycles or bikes, alternatively with taxis, there is no public transport between the centres.

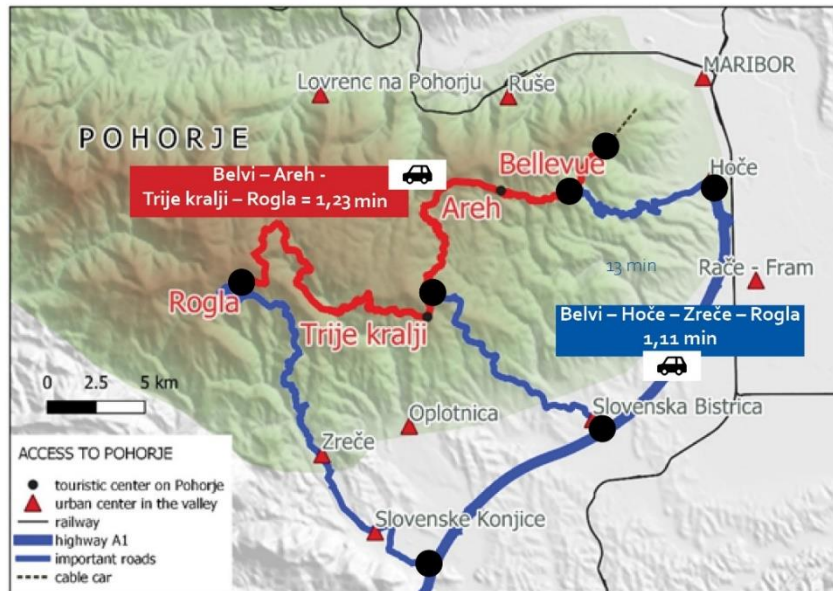


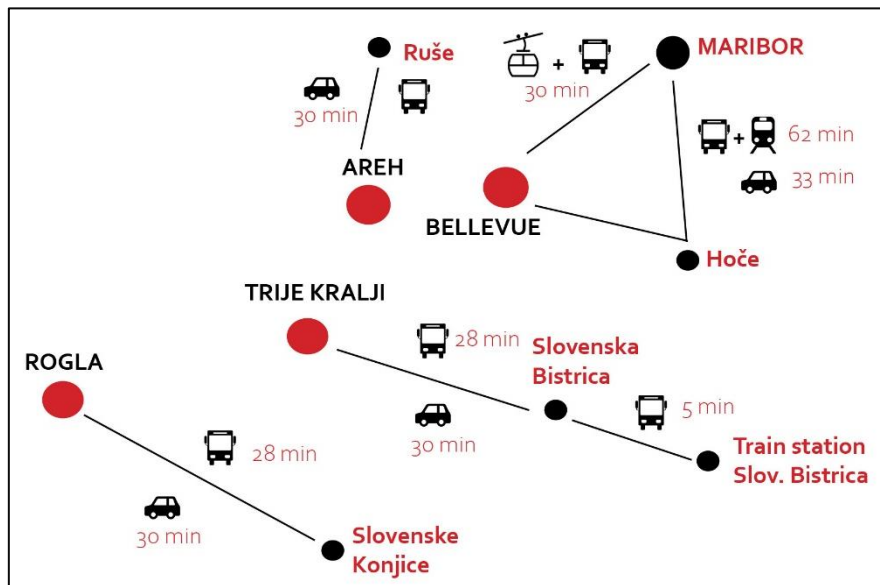
Figure 9: Journey time distances between destinations in area

Multimodal accessibility of Pohorje is possible, but there are problems with harmonisation of train and bus schedules, and between regular and seasonal lines. At the moment, public transport cannot compete with private transport on Pohorje, so about 80% of all transport is done by private cars. The main challenges for multimodal access to Pohorje are as follows:

- The connection by train between Maribor and Hoče could be continued with a bus line in the direction of Hočko Pohorje (see Figure 8 above), to the bus stop at the hospital. It would take 62 minutes. But because of inharmonious timetables and long waiting times, it would take over 3 hours to reach the top of Pohorje, as the bus line does not go all the way up the mountain.
- Bellevue, Areh and Ruše can be reached only in summer with the Marprom seasonal line. However, the bus offers a connection only on weekdays (before 3 pm), there are no later connections. There are also no connections on weekends. By car it takes 33 minutes to Bellevue.
- Slovenska Bistrica has a train station located 3.6 km outside the city, so the best option is to use the bus, which runs every 1 - 2 hours. To get to Trije kralji one would have to change to the bus line from Slovenska Bistrica, and this line only runs 3 times a day. In total, it would take 2.5 hours to reach Trije kralji from Slovenska Bistrica by bus, while a car would only take 33 minutes. It is also possible to walk or ride a bike, but the sidewalks and bike paths are not in good condition, while the car can go pretty fast.
- Reaching Rogla from Slovenske Konjice and Zreče by bus is possible in winter, when both places are connected to the Rogla ski centre by a ski bus. There are no regular bus lines, which hinders tourism on Rogla, where there are many attractions open all year round: Bike Park, tree top walk, etc). Rogla can be reached by car from Slovenske Konjice in 30 minutes, the same goes for the bus (when the line is running).



- Ruše has a bus and train station nearby and bus service is fairly regular (every 0.5 - 1.5 hours). However, there is no connection from Ruše to Pohorje, except for the two seasonal buses: winter ski bus and summer seasonal Marprom line. The journey takes 30 minutes.
- The best multimodal connection to reach the Pohorje is from Maribor. You can easily reach Maribor by train and change to the city bus (line 6: Maribor - Pohorska vzpenjača), which runs very frequently (every 20 minutes on weekdays, every 30 minutes on weekends and holidays). The bus can also take bicycles. Next, it is the connection by cable car to Bellevue. The total time is 30 minutes, which is equivalent to the trip by car.



**Figure 10: Journey times with multimodal transport**

The main conclusions are:

1. The cable car from Maribor to Bellevue shortens the trip by 25 minutes with respect to the train + bus option, but almost equal in time to the car journey (Maribor - Hoče - Bellevue), while reducing the distance for 22.5 km.
2. A trip from Bellevue to Trije kralji would take 34 minutes and would be 30 km shorter than the descent from Pohorje and the trip on the main road.
3. The trip between Trije kralji - Rogla on the top of Pohorje would take 25 minutes and 32 km less.
4. The total journey time of the connection between Bellevue and Rogla is pretty much the same for the connection on the mountain as for the descending, driving around and ascending again. However the “around trip” is 26 kilometres longer.



## 5. Mapping the governance framework and relevant actors

### 5.1. Planning and regulatory framework

In Slovenia the topic of (sustainable) mobility is dealt with in several strategic documents:

#### National level

- **Transport Development Strategy of the Republic of Slovenia Until 2030 (2015)** stresses the need of sustainable mobility and public transportation. It admits the inefficiency and poor coordination of public transport in Slovenia. As one of the alternatives, the strategy offers the “Dial-a-Ride” solution (the so called on demand mobility) and integration of school bus lines with public bus lines for better coverage of public transport in rural areas. The operational part of the strategy (2015) is the Resolution on the Transport Policy of the Republic of Slovenia Until 2030.
- The most recent document is the **Slovenian Development Strategy 2030 (2017)**, which defines new concepts of mobility and development of public transport that are important to reach the goals of low carbon circular economy and environment protection. For this purpose, it also promotes the sustainable mobility by “including new concepts of mobility and increasing the share of public transport.”
- **The Rural Development Programme 2014 - 2020** is an important document for general development of the rural areas and investments funded by the European Agricultural Fund for Rural Development. This includes the accessibility of the rural areas, based on sustainable transport, which must also be defined in the local development strategies of rural local action groups.
- **Spatial Development Strategy (2004)** confirms the importance of developing public transport with the help of the state, where “special concern will be given to good connections of public transport between the rural areas and the urban centres. “(SMACKER “D.T1.1.3, 2019)

#### Regional level

- **Strategy for Development of Pohorje** is a strategic document prepared by the Partnership for Pohorje, which includes 19 municipalities on Pohorje and around it. It also consists of 3 key representatives of the tourist offer on Pohorje and 6 members representing the main areas of challenges on Pohorje: economy, infrastructure, nature preservation and demography. The document contains an analysis of the State of Art in the field and identifies challenges and seeks opportunities for further development (Strategy for Development of Pohorje, 2020).

#### Local level

- Municipal policies have a strong impact on managing mobility within the municipal area. The municipalities of Slovenia are preparing the local integrated transport strategies (ITS) based on sustainable urban mobility plans (SUMP) but tailored to the Slovenian conditions. They include various measures in the field of mobility and policies, as well as measures for improving accessibility to public transport in the rural areas. On the territory of Eastern Pohorje there are 5 municipalities, that have their own transport strategies: Hoče-Slivnica, Maribor, Slovenska Bistrica, Zreče and Slovenske Konjice.



## Slovenian legislation,

### National level

- **Road Transport Act (2016)** sets the main regulatory framework and defines the public road transport as a service in public domain, where the state ensures the connectivity between towns. Urban lines are mandatory for municipalities with a population over 100.000; municipalities with less population may voluntarily organize urban lines. The implementation rights for public transport is given to the Ministry of Infrastructure and the Slovenian Infrastructure Agency. 1. The Ministry for Infrastructure runs all the procedures in the name of the state, regarding the concessions; it is responsible for the public service of public railway transport of passengers, the project on integrated (single) ticket and coordination of the entire system of public transport; it determines the rules of municipalities for establishing new rural-urban lines within individual municipalities; it controls the concessionaires (Inspectorate for infrastructure). 2. Municipalities can establish a public service of a city bus (obligatory for municipalities with over 100.000 inhabitants). By doing so, the municipality takes over the responsibility for the choice of the concessionaire and managing the contracts, maintaining the local infrastructure to ensure the public transport and similar.

Road Transport Act also allows for the service of “dial-a-ride” which is different from the regular taxi services. It is defined as an advance service of public transport that includes up to 8 passengers and is operates in areas where public transport is not organised, or in areas with lower demand for public transport services. The service can be provided on a predetermined schedule, but in a “dial-a-ride” mode, exclusively on previous demand raised from the potential passenger. It can also be implemented with flexible schedule, where the time and other travel parameters are adopted to the needs of the passenger.

- **Railway Transport Act** defines public transport of passengers as public property and public service.
- **Basic School Act** is also important for mobility in the rural areas, because it defines the rights of school age children to free transportation to school if they live more than 4 kilometres away from school, or if their route to school is not safe. This includes an important part of rural roads, where school transport usually represents the only public transport service. The Road Transport Act determines the transport services for special categories of passengers as a special kind of public transport services. Since 2013 it offers these services to a broader public. (SMACKER “D.T1.1.3, 2019).
- **Rules on bus stop stations** determines the conditions and other areas concerning the establishment of a bus stop.

## 5.2. Identification of Stakeholders and key target groups

The key target group for whom on-demand service would make the biggest difference is tourists from the following three categories: bikers, hikers and skiers. Other target groups that need to be included are residents and tourist workers (employees of the tourist centres).

**Bikers:** Pohorje has many mountain bike trails and 2 bike parks (Rogla, Bellevue). Connecting the tourist centres with an on-demand service would make it possible to bike in one direction and return with organized transportation. This is especially important because the terrain has many inclines and declines, making it difficult for certain groups of people such as seniors (who are the largest tourist group), families with children, and the less trained. In this way, cyclists could experience most of the Pohorje and combine overnight stays in different centres by cycling between them. Within the Partnership for Pohorje 7 new circular bike trails are planned along the forest paths of Pohorje, a mono-trail between 3 bike parks and the long-distance cycling route at the foot of Pohorje. In this way, Pohorje will become an important cycling



destination, therefore it is imperative to consider on-demand transport between the main tourist centres. The service must be suitable for cyclists, ensure a safe trailer for bicycles and e-bikes, have clearly marked stops in the main tourist centres with intermediate stops and be reasonably priced.

**Hikers:** Pohorje is also very popular with hikers of all generations. For them, too, it would be beneficial if there was a way to hike a trail and return by shuttle or combine a tour to different places around Pohorje. Hiking is possible all year round and is therefore a good way to promote 365 tourism.

**Skiers:** 173,000 ski passes sold per season in the 3 ski centres of Eastern Pohorje show the importance of ski tourism for Pohorje. It will only become more attractive if the centres are connected by a shuttle. The shuttle must have sufficient space for skis and be harmonized with the operating hours of the slopes (to the slope in the morning, back in the afternoon).

Due to the promotion of Pohorje as a year-round destination (Pohorje 365) and the marking of new bike routes, including a new single trail between bike parks, the DRT could operate year-round. In the initial phase, the service could run on all days in the summer and winter, and only on weekends in autumn and spring. The service could start as a fixed schedule DRT, with the first trip in the morning and the last trip in the evening taking place regardless of demand, while all trips in between would only occur if there is demand for them. Reservations could be made through a dedicated app and by calling the reservation centre. Later, the fixed schedule could be converted into a flexible schedule, provided there was sufficient demand.

For the establishment of a public transport service that meets the demand, the cooperation of the different stakeholders is important. The main stakeholders have been identified and are listed in the table below. The stakeholders are representatives of the 9 municipalities of Eastern Pohorje where the service would take place, public transport providers, all three tourist centres, 3 regional development agencies, local societies, local schools, 2 national ministries and 7 working bodies.

**Table 4: Smacker key groups and representatives**

SMACKER TARGET GROUPS	REPRESENTATIVES
Local public authority	Municipalities: Ruše, Lovrenc na Pohorju, Maribor, Hoče-Slivnica, Rače-Fram, Slovenska Bistrica, Oplotnica, Slovenske Konjice, Zreče
Regional public authority	/
Infrastructure and (public) service provider	JP Marprom d.o.o., Nomago, Arriva, Slovenske železnice, Izletnik Celje d.d., Avtobusni prevozi Lipičnik Anita s.p.,
General public	/
Education/training centre and school	Srednja turistična šola Maribor, Visoka šola za gostinstvo in turizem Maribor,
Other	Expert working groups for the areas of: biking, hiking, tourism, regional park, roads, destinations, cable carts.



<b>SME</b>	Hotel Jakec d.o.o., Park Pohorje d.o.o., ZURI, Turizem Pohorje d.o.o., Pohorje turizem Borut Zadek s.p.
<b>Higher education and research</b>	Univerza v Mariboru: Fakulteta za gradbeništvo, prometno inženirstvo in arhitekturo Filozofska fakulteta Maribor (Oddelek za sociologijo) Ekonomsko-poslovna fakulteta
<b>Sectoral agency</b>	Regionalna razvojna agencija Podravje - Maribor, Regionalna razvojna agencija Savinjske regije, Razvojno informacijski center Slovenska Bistrica, The Slovenia Forest Service, Institute of the Republic of Slovenia for Nature Conservation
<b>Interest groups including NGOs</b>	Ko dvignem sebe, dvignem Maribor; Združenje slovenskih žičničarjev; MDO Podravje; Gremo na Pohorje; Društvo gostincev Pohorja, LTO Rogla - Zreče, Maribor Tourist Board
<b>National public authority</b>	Slovenian Ministry for Infrastructure, Slovenian Ministry for Economic Development and Technology
<b>Large enterprises</b>	UNITUR d.o.o
<b>International organisation, EEIG under national law</b>	/



## 6. SWOT analysis

Table 5: SWOT analysis

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>- Municipalities are united in the Partnership for Pohorje</li> <li>- Strategy for the development of the Pohorje area adopted by all municipalities in the Pohorje area.</li> <li>- Good geographic positioning (part of international transport lines)</li> <li>- Developed tourism, sports and adventure offer - with the possibility of expansion</li> <li>- Diversified terrain and natural and cultural attractions that attract tourists throughout the year - with the possibility of expansion</li> <li>- Established infrastructure and services (roads, cable cars, cycling and hiking trails, sewage system, water supply, electrification, internet access, mobile phone coverage)</li> <li>- Unique gastronomic and wine-growing offer</li> <li>- A long tradition of associations and societies (mountaineers, hunters, cultural associations...).</li> </ul>	<ul style="list-style-type: none"> <li>- Tourism is developed only in 4 centres that are not connected by public transport.</li> <li>- Low frequency and poor connections by public transport.</li> <li>- High investment in infrastructure required due to the nature of the terrain and small population size</li> <li>- Key stakeholders are not connected</li> <li>- Low visibility of the Pohorje identity</li> <li>- Public transport is dependent on season and weather conditions</li> <li>- Disperse local offer</li> <li>- Lack of joint promotion and marketing</li> <li>- Limited boarding capacity on Mariborsko Pohorje.</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>- Connecting tourist centres with alternative means of public transport</li> <li>- Promoting Pohorje as a unified destination under a single brand name</li> <li>- Reconstruction and upgrade of existing road connections</li> <li>- Planning of new bike paths, mono- trails and unification of existing road signalization (marking of bike and hiking trails, information boards)</li> <li>- Development of tourism along the Bellevue - Areh - Trije kralji - Rogla road outside the existing centres</li> <li>- E-bikes and related infrastructure (charging stations, stands in front of catering and gastronomic providers)</li> </ul>	<ul style="list-style-type: none"> <li>- Regular public transport not feasible (low demand, high price).</li> <li>- Preference for cars or e-bikes between tourist centres.</li> <li>- Private offer has better alternative transport</li> <li>- Lack of funds for investment in infrastructure and maintenance (rehabilitation of roads).</li> <li>- Local population does not support tourism development</li> <li>- Absence of tourism due to pandemics and other natural disasters</li> <li>- Unsustainable development</li> <li>- Slow responsiveness of local policies regarding alternative modes of mobility (long procedures).</li> </ul>



- |                                                                                                                                                                                                                                                                             |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <ul style="list-style-type: none"><li>- Networking of stakeholders and joint marketing</li><li>- Development of sustainable projects</li><li>- Preservation of existing and development of new jobs in tourism</li><li>- Redevelopment of larger tourist objects.</li></ul> |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|



## 7. Policy challenges

National policy considers on-demand transport as one of the alternatives to public transport. However, at the local level, the municipalities of the Eastern Pohorje do not explore this option in their local integrated transport strategies, nor in the field of tourism. The preparation and adoption of an Integrated Transport Strategy for the Pohorje Mountains that considers all aspects of mobility (DRT, public transport, parking, accessibility, roads) and their relationship with tourism could lead to a coordinated approach in development plans. This would be of great importance for future DRT services connecting not only Eastern Pohorje, but also its western part, creating a single and year-round tourist destination Pohorje 365. The basis of such a connection is the reconstruction of (state) roads on Pohorje, where the Pohorje Act could help, but its adoption is questionable.

The most important need for advancement of all tourism on Pohorje is the connection between the 4 tourist centres Bellevue - Areh - Trije kralji - Rogla through a demand responsive or "Dial-a-Ride" public transport system after the reconstruction of the tourist road RT - 929 connecting the 4 tourist centres. Other challenges that may hinder the efforts and need to be addressed in the action plan are:

- Problems with investment sources for the reconstruction of roads by the Ministry of Infrastructure (MZI). Due to the poor condition of transport infrastructure, significant investments are needed, but these investments may not be prioritised at the national level. The Partnership for Pohorje has already held several meetings with the Ministry of Infrastructure and other ministries to recognise Pohorje as a unified destination and thus the importance of reconstruction of the state road infrastructure.
- Financial sources for demand-responsive transport - the service would have to be financed by all 4 tourist centres, as well as by the municipalities of Pohorje where the connecting road RT -929 is located (preferably by all 9 municipalities) and all tourist providers. The previous experience with the Rogla - Bellevue shuttle shows that this is possible, even if it is difficult to achieve, as the tourist centres are used to working individually and not in synergy. However, as Pohorje is connected within the Partnership, this will be the platform to enable cooperation between all the main stakeholders.
- If the shuttle could only stop at official bus stops, there could be an additional problem due to the regulation of bus stops. The current experience with seasonal traffic shows that on roads with low traffic intensity, the shuttle can stop outside the designated area. Current Marprom summer routes stop on the street in front of a location even when there is no official bus stop. Apart from the main connecting roads (from Hoče, Lovrenc na Pohorju and Zreče), traffic is not dense.



## 8. Conclusions and addresses for the Action Plan development

Our analysis shows the following problems with public transport:

- The top of Pohorje has poor public transport - no regular lines, no seasonal lines connecting the centres and poor road infrastructure between the centres. At the same time, this is the most visited part of Pohorje by tourists. Currently, transportation by car is the best option, but even that means driving down and up the mountains to use the main roads at the foot of Pohorje. This means longer journeys, which is neither sustainable nor environmentally friendly.
- Seasonal lines - most public transport lines operate only in a certain season and depend on weather conditions. Therefore, there are no regular lines that would connect tourist centres on Pohorje with urban centres (e.g. Rogla - Zreče).
- The timetables of the railway and bus systems are not coordinated.
- There is a significant lack of public transport connections at weekends and during school holidays.
- Some of the lines do not go all the way to the tourist centres but end earlier and do not take tourists to their destination on Pohorje, so they have to continue by another means of transport (on foot, by bike or by taxi).
- Only some of the trains and busses are equipped to transport bicycles.

Pohorje is being marketed as a green, sustainable destination. It is therefore a priority to establish a means of transport that supports the concept of sustainable mobility, and one of the feasible solutions is demand responsive service, perhaps even in the form of a "dial-a-ride" service. Green mobility can also create new jobs on Pohorje, both in transport and tourism. The DRT system could run all year round and should start as an experimental pilot for a limited time. The line would vary depending on the season. To ensure better rentability of the transport, it would be conceivable to hold various events in tourist centres to attract visitors and thus gain greater community support. The transport itself would also serve the local population, not just tourists.

The existing mountain road can be used to connect four tourist centres in the core area. After the planned rehabilitation of the RT -929 road, travel times for a direct connection will make public transport (bus) competitive. However, as mobility demand between centres depends on the needs of visitors (tourists), which can be quite volatile, demand responsive transport seems to be the most viable option for tourism mobility for the following reasons:

1. The main road between Bellevue - Areh - Trije kralji - Rogla is at present in a bad condition and does not admit larger public transport vehicles, so there are no regular lines between the centres. The only alternative is to descend and use the road network at the bottom of the mountain and then climb back up or use a bicycle, although the varied terrain makes it very difficult for an average cyclist to manage.
2. There is an increasing number of tourists in summer and winter who expect a variety of experiences (skiers, cyclists and hikers) and want to discover and explore Eastern Pohorje, not just one centre.
3. The demand responsive service would make it possible to market Pohorje as an integrated destination consisting of 4 tourist centres, which would increase its attractiveness and the number of visits. It would be interesting for tourists to stay in Areh, cycle to Rogla, enjoy the sights there and come back to Areh with the transport service according to their need.
4. The distances between attractions are too great for average hikers and cyclists, so the demand responsive service would allow better flexibility for those who cannot travel the entire distance.



The key points for the DRT action plan development are:

1. Identification of DRT route (including stops) and collecting necessary data for its establishment.
2. Establishment of communication with municipalities, tourism centres and other stakeholders about the characteristics of the transport (number of passengers, flexible or fixed schedule)
3. DRT service cost estimation.
4. Exploring options for funding (EU funds, national funds)
5. Agreement between stakeholders on the establishment of DRT and especially on cost sharing.
6. Setting up a pilot, one-year DRT service and further improving the system based on the pilot experience



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