

# CRITERIA FOR SELECTING AREAS FOR ORIENTEERING MAPS

Dusan Petrovic  
University of Ljubljana,  
Faculty of Civil and Geodetic Engineering,  
Ljubljana, Slovenia  
[dusan.petrovic@fgg.uni-lj.si](mailto:dusan.petrovic@fgg.uni-lj.si)

## Abstract

The paper describes the criteria, which have to be observed while selecting the adequate areas for preparing and making orienteering maps. Criteria are different according to the proposed use of maps and according to discipline and they have been changing in last years. Traditionally, difficult and challenging terrain, usually as less populated and as wild as possible, that enables good course setting was the most important factor. Therefore competitions usually took place far from the settlements, not very easily accessed and the maps were usually used for many purposes; with some adaptations also for different disciplines. Nowadays, new disciplines like sprint orienteering, special maps for education and school pupils, popularization of orienteering, specialization of disciplines and improvement in the sport need selection of proper areas for different disciplines and types of orienteering. Besides traditional criteria, there are a lot of others, like access to the terrain, distance to the traffic network, steepness, density of vegetation, runability, frequency of changes in the terrain, possible dangerous on the terrain etc.

**Key words:** orienteering, orienteering maps, terrains for orienteering, map use

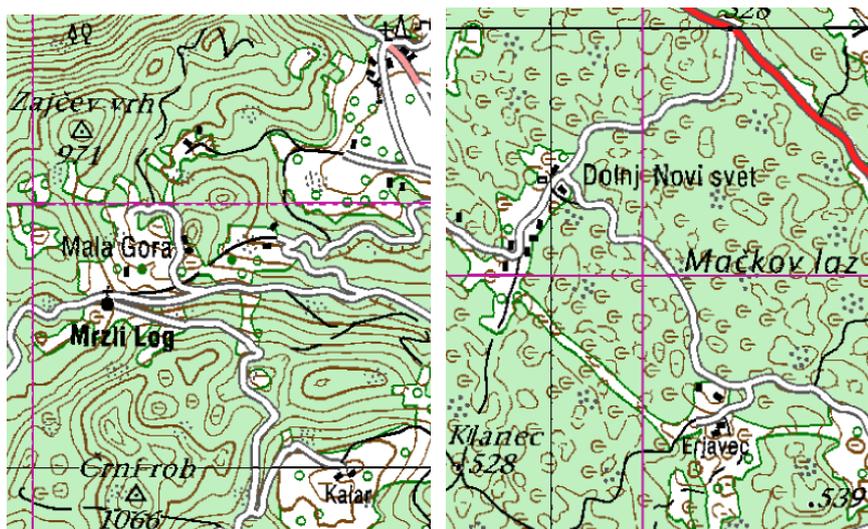
## Introduction

Orienteering maps are maps, made for competitions and training in orienteering sport disciplines. Four main orienteering sport disciplines are foot-orienteering, ski-orienteering, mountain-bike-orienteering and trail-orienteering, besides them, there are also some other variations and types, which often serve for trainings, for fun or as a part of other complex events, like adventure races (Petrovič, 2007). Maps for every of these disciplines are slightly different, but all are fully internationally standardised in a scale, content and map design (Zentai, 2001). Some maps slightly diverse from standards, but can therefore be used only for education and trainings. In general maps are more precise than most of other maps, while relational correctness is much more important than position accuracy. Maps often cover small areas, where the terrain and environment enable orienteering sport activity.

## Early criteria

In the early period of orienteering sport development, in the end of 19<sup>th</sup> and first half of 20<sup>th</sup> century, there were no special maps for orienteering and therefore topographic or

sometimes even tourist maps were used for orienteering. Scales of those maps varied from 1: 100,000 in the beginning to 1: 20,000, while the most common map scale was 1: 50,000. According to cartographic principles, level of generalization on the maps at such scales enables quite generalised presentation of terrain objects and phenomena. On tourist maps, where topographic content serves mainly as a background, it can be even more generalised. The selection of areas suitable for orienteering was therefore dependent on the presentation of the terrain on available maps. The main purpose of maps in orienteering is to enable a competitor to find control points and select the appropriate route from his position to the next control point. Therefore, control points could be set only on the objects presented on the map, and the presented content should allow a competitor to select his route. This condition was fulfilled mainly on terrain with enough distinctive objects, like peaks, depressions, ponds, streams, tracks, even buildings. Figure 1 presents two inserts of a topographic map at scale 1: 50,000; the first one presents the terrain where orienteering using this map is possible. The second insert presents the area, which is now one of the very popular for orienteering, but using a map 1: 50,000, orienteering is not possible.



**Figure 1:** Inserts of topographic map 1: 50,000, a) area is and b) is not suitable for orienteering

In the 1950s the first maps especially for orienteering were made, based on terrain survey. In the beginning, the type of presentation including design of cartographic symbols was adapted to the mapped terrain and was individually chosen by the map maker. As a result of that, domestic competitors were in a privileged position according to others. In 10 years orienteering quickly developed in different (mostly European) countries and in 1961 the International Orienteering Federation (IOF) was founded. One of its first goals was to overcome unfair circumstances about the privilege of domestic maps and define the content, design and production process of maps, suitable for orienteering purposes. Therefore the Mapping committee was formed in 1965 with the main task to standardise

orienteering maps. From the very first specifications for orienteering maps, several modifications and versions of those specifications have been prepared by the committee.

Making special orienteering maps according to proposed specifications areas with less distinctive objects, with no paths or tracks, with some dense vegetation parts, uncrossable parts etc. become suitable for orienteering, because all objects and their characteristics, important for route choice were presented on a map. Figure 2 shows the same area presented on the topographic map 1: 50.000 (enlarged to 1: 10 000) and on orienteering map at a scale 1: 10.000. Presentation on topographic map is not suitable to make orienteering on that area, while using orienteering map the same terrain became very interesting and challenging.



**Figure 2:** Area, presented on a) topographic map, b) orienteering map

For course setters and organizers of orienteering competitions, the most important factors for selecting areas for orienteering become difficult and challenging terrain, usually as less populated and as wild as possible, that enables good course setting. Therefore competitions usually took place far from the settlements and even often not really very easily accessed.

Besides the criteria mentioned above, the very important factor for selecting areas for orienteering have been formal and legal restrictions. Organizers always had to avoid restricted areas, like protected areas, army or hunter's territories, private owned places, etc. In some countries those restrictions caused that orienteering even couldn't develop. Especially in some former socialist countries changes in legislation fundamentally change the possibilities for selecting some areas after political changes in 1990-ies.

### **Different terrains for different purposes**

In that time, foot-orienteering (FOOT-O) was the very dominant orienteering discipline and map specifications were adapted to its needs. Prepared maps were usually used for many purposes, for competitions, for trainings, for education; with some adaptations

also for different disciplines, like ski-orienteing. But, it soon became evident, that some other criteria have to be taken into account while selecting proper areas. In 1980-ies orienteing became more and more popular, especially in Scandinavia. Some most popular competitions, like Sweden 5-days, attracted up to 20.000 participants. Besides finding the terrain that could carry such a mass it was also extremely important to have appropriate place for finish and competition centre. Than the traffic connections had to ensure so many competitors to the event pace in time.

However, in the same period orienteing as an elite sport loses its popularity and became less recognised in a competition of other sports. As the answer on that International Orienteering Federation (IOF), encouraged with some positive experiences in series of Park World Tours, launched sprint orienteing competition as a new form of orienteing competition. Terrains for sprint orienteing maps should be quite different like traditional terrains. They should be closer to the public, in a city parks, old city centres or near the popular leisure places. Figure 3 shows two inserts of maps for sprint orienteing. In last years even special specifications for such type of maps was prepared (Zentai, 2001).



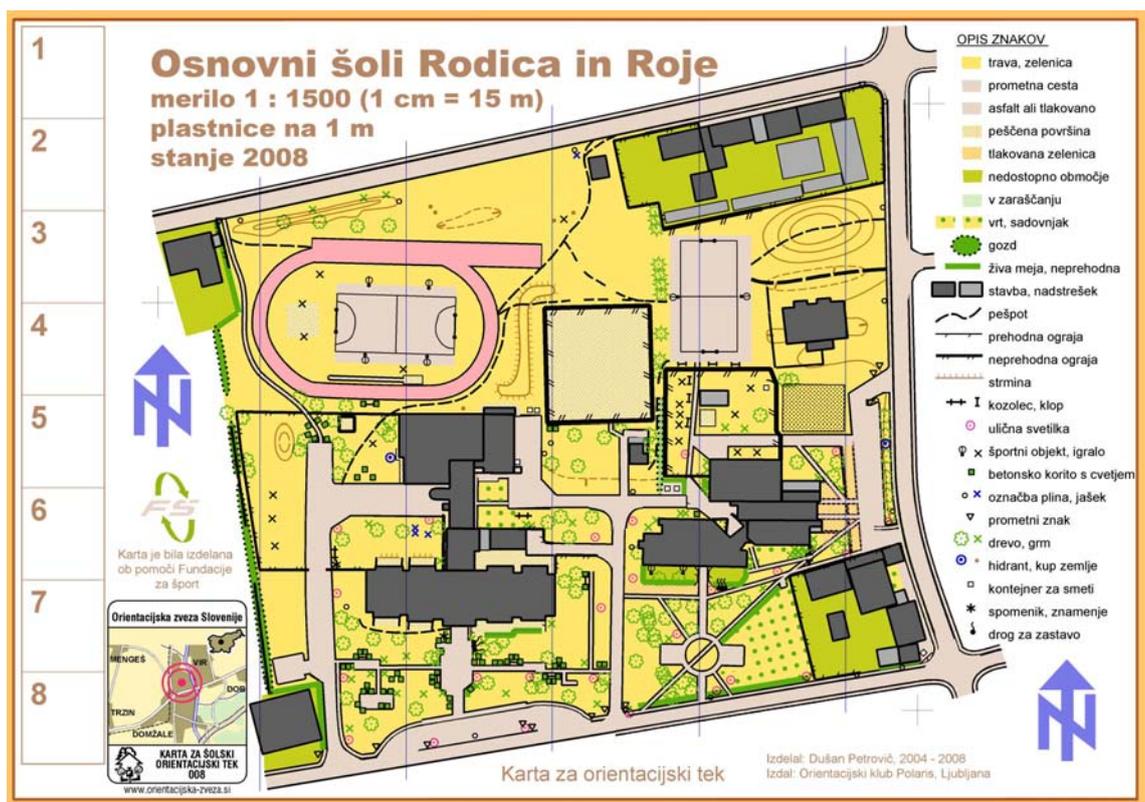
**Figure 3:** Areas suitable for sprint orienteing (old town, park)

In last years also terrains for different disciplines and forms of orienteing became more specific and less universally used. Ski-orienteing (SKI-O) and mountain-bike-orienteing (MTB-O) are disciplines, where competitors mainly follow tracks. Therefore unpopulated areas with no tracks, which might be very challenging for FOOT-O, are not suitable for other two disciplines at all. On the other hand, ideal areas for SKI-O or MTB-O with dense track network might be too easy for elite FOOT-O runners. In normal cases, speed of skier or biker is much higher then runner's speed and therefore areas for SKI-O or MTB-O should also be larger and not extremely steep. Figure 4 shows the example of area, suitable (only) for MTB-O.



**Figure 4:** Area suitable for mountain-bike-orienteering

Many countries started preparation of special large scale maps in school surroundings, intended initially for first education and training of young beginners. For them the most important is that area is safe, without any dense traffic streets, danger steepness, and water bodies. Sometimes it is suitable if area is even bordered with a fence or other distinct limit. Figure 5 shows such suitable area.



**Figure 5:** Area suitable for school map

## **Conclusion**

Orienteering is a sport, where both terrain and a map are very important for success and joy of participants. Modern orienteering map specifications enable adequate presentation of almost any kind of the terrain. But it is very important that the organizers or trainers select the terrain that is suitable for specific purpose, according to orienteering discipline, skill and expectation of competitors, their age, and available time to spend for orienteering. Orienteering is a sport where someone wants to check his physical and mental limits, while others just want to enjoy navigating in the nature and on the proper terrain everyone can get the best he is looking for.

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