Presenting Multilevel Environment on Orienteering Maps

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Abstract:

Orienteering maps are probably the maps, which content and design is the most precisely defined by specifications, confirmed by the International Orienteering Federation (IOF). Different disciplines of orienteering sport needs slightly different maps. Among them, the newest ones are sprint maps, developed in last 20 years and specified at International Specification for Sprint Orienteering Maps (ISSprOM 2019). Since the sprint orienteering is a fast, visible, easy-to-understand format, allowing orienteering to be staged within areas of significant population, it is often organised in parks, urban areas, old towns, city centres, etc. In these environments, is not unusual to find multilevel areas. ISSprOM allows for the representation of simple underpasses and overpasses, but today many attractive urban areas consist of much more complicated multilevel structures, with bridges, terraces, parking houses, where three or even more height levels are suitable for running and navigating.

Within the orienteering community, there is an ongoing discussion and searching the compromise. Organizers and spectators favour more and more challenging and attractive environment, competitors would except the same in a case, that maps allow clear presentation and cartographers should try to fulfil their expectations. It's crucial that we have to keep the balance between complexity of the multilevel environment and possibility of reading and understanding such structure on map while running, sometimes also in bad illuminating conditions.

There are different directions at the moment, how clearly present multilevel structure on a plain map. Stripped upper level area and line composed of triangles that show the direction, from which the structure is passable on the lower level, is the option, mostly discussed at moment and should be useful for most two-level cases (Figure 1). Introducing additional colour seems to be another option. But for more complicated multilevel structures maybe we should think of more map layers, printed on the same map sheet separately, one for each level, like sometimes we use in O-trainings in shopping centres, large ships, university or dormitory buildings etc. And when multilevel structure is only in a limited part of the area, on the main map only dashed lines for the borders that are below the uppermost level are used, while separate inserts of the selected clearly designated area, probably at the larger scale, too, show different height levels each.
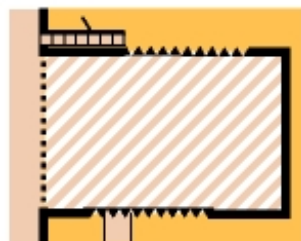
Figure 1. Area passable at two levels and boundary passable on the lower level only.