International MTBO Mapping Specification Revision

Notes by Michael Wood

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The path of revising these specifications may be compared to riding in Whakarewarewa Forest. Tortuous.

After years of trying to take part I have been invited to comment on a draft revision. It has been presented all laid out rather than as a discussion paper, which suggests that only tinkering at the edges will be possible. However we can but try.

To help you see the big picture, I list here (a) the key changes compared with the previous spec and (b) the extent to which the NZ variations are satisfied. These are conventions we adopted in 2014

Key Changes in ISMTBOM 202x

The filename I have been sent includes "v13.2". I have posted it at www.mapsport.co.nz/mapresources.html

Here are what I think are the key changes. I haven't listed all the things that I would question, in the interests of showing the big picture.

Scales.

Minor changes - they have dropped 1:20,000 and introduced 1:12,500. Its interesting that this is much more liberal than foot-o. Whlle going from 15,000 to 10,000 involves enlarging symbols 1.5X (ie no extra detail), going to 1:7500 and 1:5000 involves no further symbol enlargement. This helps with detailed areas. (In strict IOF foot O you are not supposed to map any extra detail from 1:15,000 until you decide it's a sprint at 1:4000.)

For older orienteers (as in foot-o) further enlargements from the above are recommended, without specifying what. (The NZ Mapping Committee recommends enlargement to at least 133% from age 40 and to at least 150% from age 60. It is clear from foot-o that people with good eyes do not understand the experience that other people may have.)

Dash Control

They have a section on drawing techniques for legibility, with some good examples on dash control on dashed and curvy track lines. This aspect of drawing for legibility is often poor in BOTH foot and MTBO

Track symbols

They say that the full range of track speeds should be used for the area being mapped (from dotty to solid). In other words if the slowest track on the map was 75% speed it would be dotty. I think this is wrong. Don't we want the symbols to have the same meaning from event to event, throughout the

country, and the world? I'll take advice on this topic. (Doesn't this also upset the relationship between across the paddock versus around the track route choices?)

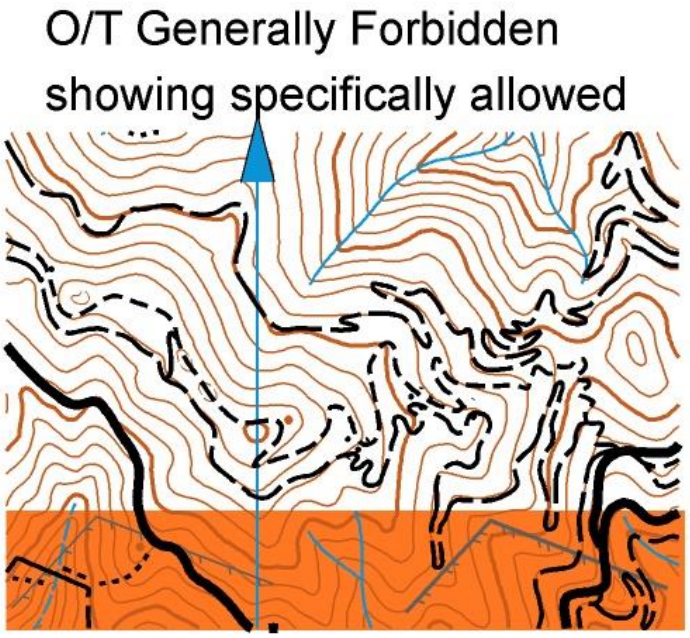
Off-Tracking Riding

This is the major difficulty with the existing IOF spec. The draft proceeds on the basis that off-track riding is either GENERALLY PERMITTED or GENERALLY FORBIDDEN. The organiser must inform competitors which it is. The spec talks about Team Officials Meetings, Bulletins etc, one would expect that there could be national rules on the matter or specific event rules.

This could solve the difficulty of trying to have a spec that caters for both situations at once, all over the world. There are provisions which cater for "O/T generally allowed" (OOB symbols used where required) and "O/T generally forbidden" (special symbols where O/T IS allowed). For our discussion let's call this "the O/T setting".

When the O/T setting is "generally forbidden", there's a symbol for allowable open land. It's a bright orange (60% magenta 100% yellow). Certainly yuk if it was in big areas but could work for small bits, indeed stand out a bit better. But consider what a map would look like if say half was allowable open. Aside from overpowering the appearance, brown contours and reduced black things like fences would be very hard to see. See the orange part on the pic below, can you tell the passable fence from the impassable fence when they are not next to each other? (Glance quickly, as you do on a bike.) There's no explicit indication of what the orange speed is compared to tracks. Dry Central Otago may be different from lush Waikato. And as above the track standard is a movable feast.

When the O/T setting is "generally forbidden" there's a symbol for allowable forest. It's a pattern of dots 0.35mm at 0.9mm spacing measured diagonally. It certainly could work for a significant area but its not going to be legible for the short-cut between close tracks. Even with exaggeration its often going to be only a few dots. The following bit of Makara Peak MTB Park has 4 shortcut areas which stand out quite well with NZ allowable colours, they are even exaggerated behind the short-cut. They are here converted to dots, can you see them?

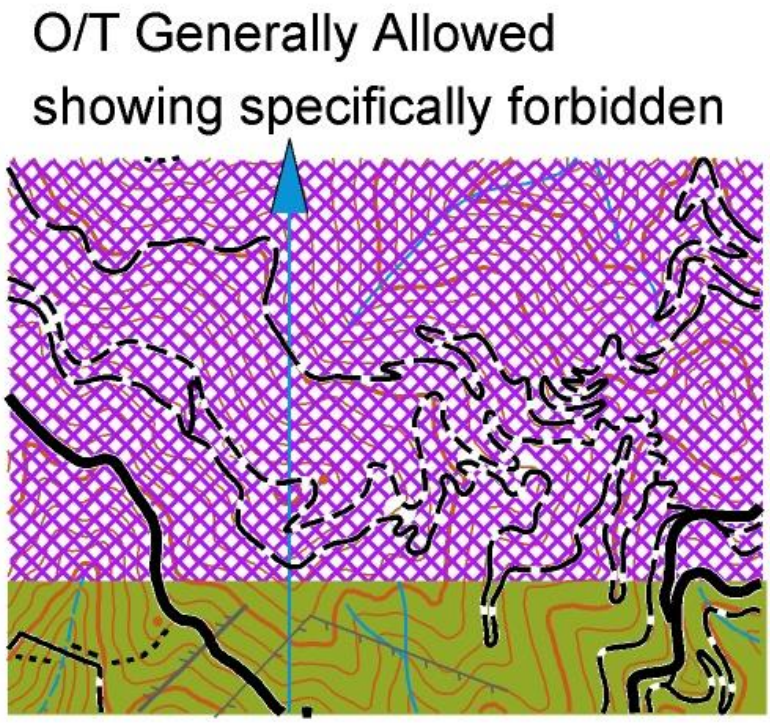


Where the O/T setting is “generally allowed” we have a sort-of speed indication in that there is

- Open land full yellow, pale yellow, scattered trees, and possibly green stripes
- Forest white, green shade, and possibly green stripes

It isnt specified in terms of speed percentages however. And of course it should be related to the track network, which is a movable feast. How do you make route choices?

On “O/T allowed” maps there may be specific Out of Bounds areas, and it would seem that our choices are Olive green and Purple cross-hatch. Samples below. Olive green is clearly better, but it has hitherto just been used for gardens/private/railway/industrial areas. Are we ready to use it for cropped or stocked paddocks or jungle that it is simply stupid to map? It would work well for urban areas though.



Where the O/T setting is allowed there’s a green stripe like the foot-o “slow/good visibility”. This means you are allowed to pass but speed is reduced to difficult or impossible to ride.

There’s a thick green line for a hedge but the wording is unclear about whether you can try to get thru. They say “Normally forbidden”. That’s pretty loose.

Rock and Man-made (black) features other than tracks

They have gone down from 70% black to 60%. This may well be good at emphasising the track network, but it increases the problems in urban events. There would often be impassable fences and walls which are going to be very hard to see – no matter what the background colour.

Strangely there’s a lot about forbidden features. In the foot specifications the IOF council directed that there should be no such direction in the mapping specs, they should all be in the rules. There’s a disconnect here.

NZ's Mapping Conventions and Whether They Are catered For

Our variations were developed by the NZ MTBO Committee. The current version incorporates reviews after the Otago and W2W Carnivals, and was published in June 2014. See the ONZ website under Mapping or MTBO

There's a certain amount of duplication with what I've written above. There may even be discrepancies😊

1 Off-Track Travel

In our 1.1 and 1.2 we took the view that O/T travel is generally forbidden, but developed solutions to enable us to allow it wherever possible – however much or little there was. This is a recognition that we have zero hope of monitoring compliance. We know that some riders cheat. We saw colour as the only way to do this for the crucial small gaps between close tracks, and adopted full yellow for open land and white for forest. Ad hoc reductions in the strength of the yellow have been made where there are large areas of it (Chatto Creek).

Lets examine the two situations the spec envisages

<u>Alternative One is to declare the event "O/T forbidden"</u>.

Allowed open land short-cuts would be orange rather than full yellow. This would work well for small areas, the stronger colour would stand out better. There is no speed indication for orange, so short-cuts must be short. There's a problem if there's a dismounting obstacle in the short-cut as it could obscure the orange. (Eg passable short-cut but you have to cross a ditch or fence.)

Forest is less satisfactory. They view white forest is just white LOOKING from the track. To make it allowable we would have to use a new dotty symbol. It seems really made for larger areas like the dog-walking area at Rotorua (mowed underneath trees) or close to towns in Victoria where 4WD's have driven everywhere and scraped the earth bare. This symbol is no good in small areas like a short-cut even if the dotty area is exaggerated. If there's a dismounting obstacle in the shortcut it is even worse. The white/green use in some countries for the appearance of the forest is a "nice to have" and we instead adopted it for the essential factor "allowed to pass". (PS forest appearance is fairly arbitrary, Australia uses it for gums/pines but different states use it the opposite way round!!!)

<u>Alternative Two is to define the event as "O/T allowed".</u>

This would suit events with extensive ridable open (Chatto Creek) where we could use ordinary yellow and pale yellow to indicate allowable passage. We might even scale the yellow intensity back if it was too bright. Green stripes over pale yellow could indicate "pass but cannot ride". Paddocks not allowed (crops, stock etc) would be need to be OOB. We have olive green but I don't know if we would be happy to extend this from gardens/private/railway/industrial areas. And we have purple cross-hatch. I don't know about you but I can't see anything such as contours through the purple cross-hatch. As the amount of not allowed rises this looks pretty ugly too.

If there is any forest on such a map we would have to either check it ALL out for rideability (white for good and green reduced speed) OR mark it out of bounds. See above for the OOB options. Small

allowable shortcuts may not stand out amid large amounts of OOB symbols. This doesn't seem attractive either.

However this option might be a good fit for urban areas where foot-orienteering has become used to olive green for built-up areas. Which I suppose raises the question of whether we could use olive green for rural not-allowed (both open and forest land). We would lose the forest/open distinction.

Interim Verdict – the proposals are not satisfactory. But the approach to assign O/T allowed or forbidden may subdivide the problem into more manageable parts, and help with the urban situation.

Our section 1.3 was an earlier measure to define O/T ROUTES as green lines. This had some advantages but the big disadvantage that short short-cuts (being short) did not stand out well. Green lines also conflict with a proposed hedge symbol. Verdict – I think we could abandon our section 1.3

Our 1.5 (there doesn't seem to be a 1.4) was about giving information to riders off-track about (a) dismounts they may need to make and (b) barriers they may not cross.

Verdict – the proposal is incomplete in this regard, and I expect that we can suggest improvements. A major thing though is that not-to-be-crossed features (high fences etc) which were at 70% black and easily missed, are now worse at 60% black. It's a particular issue if we want the spec to work in urban terrains.

2 We don't seem to have a Section 2

Maybe it was present in an earlier version.

3 Colours

We allowed some variations of the standard colours to improve legibility.

Verdict – until we sort out the colours we are going to use for passable and forbidden areas there's no sense in worrying about these.

4 Control code format.

There wasn't a specification for this and we chose one of the two customary options. They have now come down with the other one. It occupies more space on the map, but there are bigger fish to fry than this😊

5 Obstacle Symbol

We regarded this as route-choice information rather than a danger signal. We think that known danger points need to be marked in the terrain, we cannot guarantee that a map symbol will be read. With this view the symbol was awkwardly big and we reduced it. See diagram below.

Verdict – they still have the stance that this is for danger. We can try our common-sense approach with them😊

6 Track Symbols

6.1 We reduced the short dash to 1.2mm, to make a bigger difference between long and short dashes.

Verdict – they have adopted 1.2mm, yay!

6.2 We reduced the thickness of thin tracks to 0.3mm, to make a bigger difference between thick and thin, and to help with hairpins common on steep terrain and MTB park spaghetti. (See examples above)

Verdict – they have kept them at 0.4, we'll have to try again.

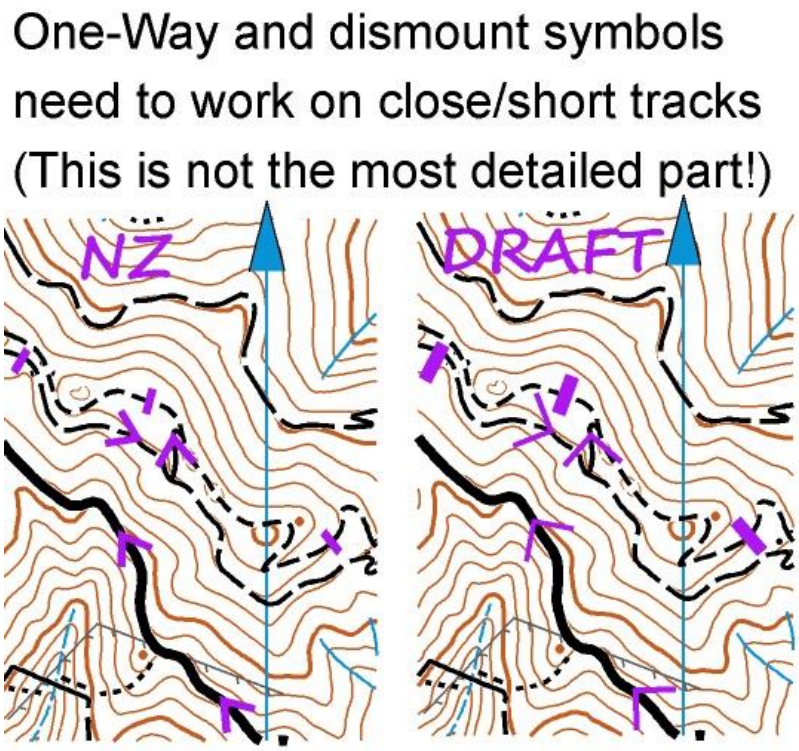
6.3 We reduced the gaps in dashed lines to a maximum of 0.5mm, to help the impression of shape in tight bends.

Verdict they have gaps as big as 0.8mm as before, we'll have to try again. NB I recall the use of an underlay colour under the black which can also help here, please remind me.

7 One-way symbol

We defined a chevron shape.

They didn't have one before, they now have a chevron, yay! It is skinnier and wider than ours. We developed ours to fit in complex track networks, theirs will have problems for us. We can try to persuade them.



8 Scattered Tree symbols

We varied the spacing/dot size to give a more scattered appearance rather than another shade.

Verdict – they seem to have moved towards our values. But the latest foot-o spacings are even better (if I'm looking at the right page) and we might question why they are different.