Supplementary Information

Analytical Estimation of Map Readability.
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The excel-file contains the following rows.

Row A and B: The map samples. First the traditional symbol type (TS) and then the new symbol type (NS).

Row C to I: Categorization of the map samples (only TS).

Row J: PRV - The mean perceived readability value of the map samples for all participants.

Row K to V: Values of the readability measures for the map samples.

Row W: PRC – Perceived readability class (estimated from the participants answers). 0 implies that the map is classified as non-readable and 1 that it is classified as readable. Non-readable maps are marked in brown colour.

Row X to Z: Result of the composite method threshold evaluation. 1 means that the map sample was correctly classified (green colour) and 0 means that it was wrongly classified (red colour). The three composite methods used are threshold evaluation (TE), multiple linear regression (MLR) and support vector machine (SVM). For all composite methods the following three measures were used: *object line length*, *number of vertices* and *number of object types*.

Row AA: Perceived non-readable, measured readable (PN-MR). The maps samples marked with 1 (and with red colour) are perceived as non-readable (by the participants) but classified as readable by the measures (in this case by the composite multiple linear regression using the *object line length*, *number of vertices* and *number of object types*).

Row AB: Perceived readable, measured non-readable (PR-MN). The maps samples marked with 1 (and with red colour) are perceived as readable (by the participants) but classified as non-readable by

the measures (in this case by the composite multiple linear regression using the *object line length*, *number of vertices* and *number of object types*).