Transit line structures in a general parametric city: The role of heuristics

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 The merits of selected heuristics to obtain transit line structures are analyzed, applying them on a synthetic parametric description of a symmetric city that allows representation of different city types (mostly monocentric, polycentric, or dispersed) and varying number of trips. Predetermined basic strategic designs are used as references for comparison considering operators and users costs. We show that (a) line structures that emerge from heuristics dominate the comparison for most types of cities; (b) these line structures are of the direct type; (c) the virtues of a heuristic depend on the level and, most importantly, the spatial structure of transport demand; and (d) new types of heuristics should take into account the structural characteristics of cities, allowing for potential nondirect- type solutions.