



APPENDIX 5 ROUTE STRUCTURE ANALYSIS

A5.1 Route structure conventions

A *route* comprises a link or a linear aggregation of conjoined links. Linear aggregation means a series of links joined serially, end-on. This outlaws a branching aggregation of links: a **T** shape cannot be a single route. Each route has a definite start and end point (a route forming an **O** shape circuit must have one node at which it starts and ends).

A *joint* is a node with one and only one conjoined route passing through it. (A joint has a minimum of two links and one route.) For example, a joint representing a four-way intersection is deemed to have a single through route, and two side routes.

All joints are formed at *nodes* (usually at junctions), but not all nodes are joints. A junction is usually a joint – an exception would be where routes meet at a node but none is continuous through it.

By the above conventions, the number of routes formed will be directly determined by the number of links and the number of joints present: $R = L - J$ (Box 5). This number of routes holds irrespective of which pattern of aggregation is chosen.

The following notation conventions are applied. Lower case denotes properties of elements (routes, nodes), while upper case denotes properties of whole networks (Appendix 6). Roman symbols denote integer properties that may be read off diagrams, while Greek symbols denote rational numbers obtained by calculation.