This appeal to connectivity and continuity seems to point essentially to the importance of lines of movement – but does not seem inevitably to point to 'axial lines of sight', a unit of intervisibility which builds in deviations from rectilinearity in absolute space. In other words, while the axial line is useful for some purposes, it is not the *only* unit on which to base measures of connectivity or continuity of lines of movement. This opens up the horizon to consider an alternative, an analysis based on *routes* of movement.

ROUTE STRUCTURE

Route structure analysis is based on the contention that the structure of a network is a product of the way that the routes connect up with each other. This means that the character of the whole is influenced by the character of the parts and the way they fit together, collectively. Conversely, the character of the parts may be defined by how they relate to each other and to the whole.

The basic element of route structure is the *route*, where a route is a linear element which may be continuous through junctions with other routes. Routes are different from *links*, which span only from one node to the next. To the extent that routes may be more or less continuous – some shorter, others longer – then different kinds of route will be differentiated, and recognition of *route type* becomes possible.

This section sets out some definitions and conventions for route structures, and how these may be used to represent street networks.

The formation of routes from links

A *route* may be considered as a linear aggregation of links, just as a link is a linear aggregation of points. Figure 5.8 shows a street layout – (a), represented conventionally as a graph comprising twelve links – (b), which is subsequently converted into a *route structure* comprising six routes – (c).

The points at which links are joined together to form routes may be referred to as *joints*. We can establish a convention that each joint has one *through route* through it, formed by conjoining two links. Therefore, at each joint the number of links will exceed the number of routes by one; and for the whole network, the number of links will exceed the number of routes by the number of joints. This gives us a fundamental relationship between routes, links and joints (Box 5).

For example, in Figure 5.8, there are twelve links and six nodes where links meet, which will form joints. Hence we obtain six routes.