(e)

FIGURE 28.4

its 'integration value' calculated in this way, that is by how the line is positioned with respect to the system as a whole.[6] In fact, it is slightly more subtle and depends on the typical length of journeys. Pedestrian densities on lines in local areas can usually be best predicted by calculating integration for the system of lines up to three lines away from each line (radius-3 integration), while cars on larger-scale routes (though not in local areas, where radius-3 is the best predictor) depend on higher radius integration because car journeys are on the whole longer and motorists therefore read the matrix of possible routes according to a larger-scale logic than pedestrians.[7]

The principle of natural movement

This relationship between the structure of the urban grid and movement densities along lines can be called the principle of 'natural movement'. Natural movement is the proportion of movement on each line that is determined by the structure of the urban grid itself rather than by the presence of specific attractors or magnets. This is not initially obvious, but on reflection does seem natural. In a large and well-developed urban grid people move in lines, but start and finish everywhere. We cannot easily conceive of an urban structure as complex as the city in terms of specific generators and attractors, or even origins and destinations but we do not need to because the city is a structure in which origins and destinations tend to be diffused everywhere, though with obvious biases toward higher density areas and major traffic interchanges. So movement tends to be broadly from everywhere to everywhere else. To the extent that this is the case in most cities, the structure of the grid itself accounts for much of the variation in movement densities.

We should then expect that the distribution of line intensity in axial maps will foreshadow densities