environment' type, Hong Kong can be best characterized as a 'public transport environment', and many European historic city centres still function as 'walking and cycling environments' (as the typically high share of slow modes there testifies). The diagram can however be also used in a more normative way: it is a *combination* of these different 'mobility environments' (Bertolini and Dijst, 2003) exploiting the specificities of each that allows the highest accessibility with the lowest dependence on the car, or 'urban development without [increased] mobility by car'. Where transport modes other than the car are, or can be, competitive methods of linking spatially disjointed activities (and hence providing alternative ways of increasing the effective size of urban markets), transport, land use and other policy measures should enhance rather than frustrate this possibility.

The essential elements of the multi-modal urban and regional are illustrated in Figure 4.4, where a schematic transport infrastructure network determines the location of activities according to their spatial reach and intensity of use. Activities

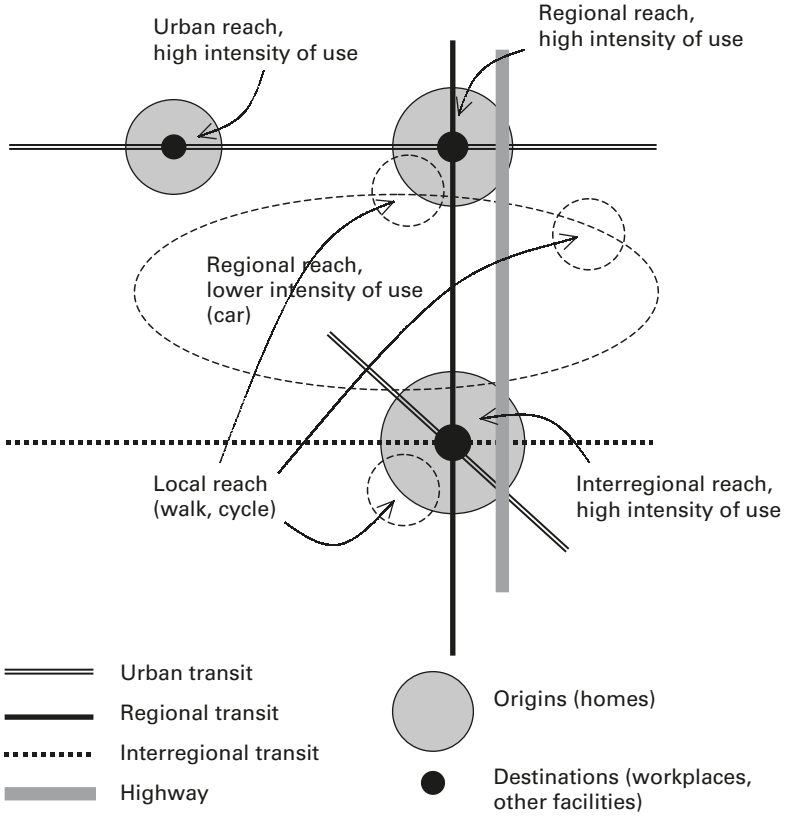

Figure 4.4
Principles of multi-modal urban and regional development, morphological scheme.

with a high spatial reach and high intensity of use are located around transit nodes, activities with low spatial reach are within walking and cycling environments, and activities with middle to high spatial reach and low intensity of use would dependent on car use. In practice, both the spatial pattern of activities and the pattern of the transport infrastructure could be the starting point of development; it should be noted however, that such development would depend on the local context.

Past trends in the Randstad considered

The above conceptual framework was applied to a detailed analysis of development in the Amsterdam region by Bertolini and le Clercq (2003). Here, trends in the Randstad, the highly urbanized west of the Netherlands, will be referred to. These trends are represented in Table 4.2. For the purposes of this chapter, the Randstad has been divided into three area types: large cities, their agglomerations and the rest (see Figure 4.5).

The data in Table 4.2 reveal a marked modal specialization of relationship types. For instance, the car and bicycle dominate mobility 'within' all area types. The train has a significant above average share in large-city-to-large-city relationships and in large-city-to-other-agglomerations relationships. For all other middle and long distance relationships the car is virtually hegemonic. Most intriguing is that in most cases, this specialization of 'mobility environments' has grown between

Table 4.2
Randstad, modal split, all trips (walking not included).

Type of relationship	As % of all trips		Modal split 1986/1987 (%)				Modal split 1997 (%)			
	1986/1987	1997	Car	Train	BTM	Bicycle	Car	Train	BTM	Bicycle
Within LG	36.7	33.3	49.2	0.5	14.5	35.8	42.6	0.6	11.9	44.9
LG-OWA	6.5	6.8	66.1	4.7	13.8	15.4	66.6	5.1	12.1	16.2
LG-LG	2.2	2.9	67.3	26.6	4.6	1.6	56.0	38.9	3.6	1.6
LG-OTA	1.3	1.8	81.2	10.8	2.2	5.8	74.8	18.2	3.1	3.9
LG-R	8.8	9.1	71.2	9.1	10.1	9.6	71.3	11.7	8.7	8.3
Within A	12.7	12.8	52.9	0.1	2.6	44.1	51.2	0.2	1.9	46.7
A-R	3.8	4.6	80.1	3.0	4.4	12.6	80.5	3.5	3.3	12.6
Within R	27.9	28.6	54.4	0.4	1.7	43.5	55.0	0.6	0.9	43.6
Total	100.0	100.0	56.2	2.3	8.2	33.4	54.2	3.4	6.4	36.0

Source: Goudappel Coffeng (1999).
LG = large city; A = agglomeration; OWA = own agglomeration; OTA = other agglomeration; R = rest of Randstad; BTM = bus, tram, metro.