



8.9 • Street cross-section, with stratification by speed. (a) Footpath. (b) Woonerf. (c) Standard street. (d) Street with parking and cycle lane. (e) Street with central tramway.

has a footway provided. Example types, employing the speed bands in Table 8.3, are illustrated in Figure 8.10.

Transit-oriented hierarchy

Having obtained a rationale for application of access constraint, we now turn to application of arteriability. Here, instead of relating arteriability to general traffic considerations, or traffic capacity, or trip length, or being pegged to the hierarchy of speed, arteriability can be applied as a new independent dimension, related to public transport orientation. This is because it is public transport that is most in need of strategic contiguity, and for all access modes to systematically connect ‘upwards’ to it – including cars (park and ride) as well as cycles and pedestrians.

However, we have still to classify public transport modes in a way suitable for a hierarchy. A problem with using vehicle occupancy as a criterion of a modal hierarchy is that it is hard to pin down – a vehicle may vary in occupancy over the course of a single journey. This echoes the difficulty of classifying routes by use (e.g. traffic flow) encountered in Chapter 3.

In effect, what separates the convenience of private transport from the convenience of public transport is not so much vehicle occupancy, but flexibility of routing. For example, a private touring coach can carry as many people as a scheduled bus, but it goes from point to point by the most direct available route. In contrast, the smallest scheduled bus plies a fixed route with fixed access points (Figure 8.11).

Not only does this fixed-route nature of public transport separate it from ‘free range’ modes such as cars, lorries and bicycles, but the relative strategic ‘scale’ of their networks can be used to distinguish *between* public transport modes – for example, between trunk and feeder services. The Japanese *Shinkansen* – known popularly as the ‘bullet train’ – is a fast, long distance, high capacity (and premium fare) train. However, *shinkansen* means literally ‘new trunk line’: the trains are defined by the network function of the lines they run on (Figure 8.12).

In fact, this kind of network function can be used to rank *all* modes. Generally speaking, the mode with the finest geographical scale is the pedestrian, followed by the wheelchair, bicycle, motorcycle, then the motor car, then (if certain routes or areas are off-limits) the tour coach or goods vehicle, then a variety of public transport modes.¹³ This means that the car–train spectrum of Figure 8.6 can be reinterpreted as one of network coarseness – part of a single pedestrian–train spectrum in geographical terms (i.e. Figure 8.5 plus 8.6). The railways provide the trunk routes or main arteries, and the pedestrian paths are the ‘twigs’ or finest ‘capillaries’.