Chapter

5

Street and Parking Lot Design

Accommodating the automobile in a site design presents many challenges, and in many instances the car may have more influence on the final design than most other considerations. This is easily observed in most contemporary development; making way for the automobile usually takes precedence over all issues of pedestrian access. Although much has been written and said about the downside of our dependence on the automobile, it does not appear likely that we will give up this means of personal transportation in the near term. Recognizing this, site designers should try to mitigate the less desirable impacts of automobile use.

The negative effects of streets and parking lots range from the obvious storm water runoff and localized microclimate changes to the isolation of pedestrians and degradation of neighborhoods. Most city dwellers are familiar with the "heat island effect" whereby pavement absorbs solar radiation and gets hot during the day and then stays warm well into the night. This effect can result in local temperature increases of 10 to 15°F above the temperature in the surrounding areas. Where heat islands exist, cooling costs are high. In climates with already-high summer temperatures, the higher temperatures can make a stressful environment actually harmful to people sensitive to heat or who have conditions that can be aggravated by heat. Warmer summers are expected to increase the number and extent of heat-related illnesses and deaths in several parts of the United States over the next 25 to 50 years. Some communities are already implementing some simple preventive strategies such as using lighter-colored paving materials that contribute less to the local heat island effects than dark-colored paving materials or incorporating more sources of shade into parking lots.

In general, it is agreed that large areas of paving are a necessary accommodation for the automobile, but such areas are at best unfriendly and at worst even stressful to people. In most cases little or no effort is made to fit the pedestrian into the design. In those applications that must accommodate both