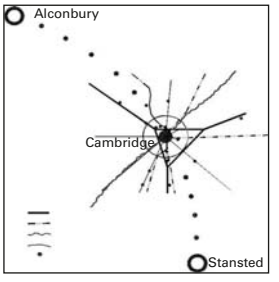
use of cars and thus congestion? Would households and firms actually locate in these corridors? There is also the possibility that potentially harmful traffic flows may emerge, in and out of the corridors.

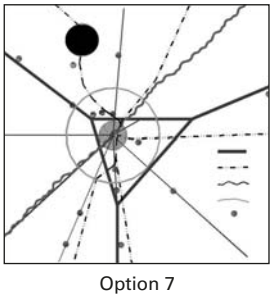
Option 6: Virtual Highway



Option 6

Virtual Highway develops a high-capacity electronic communications system that would provide instant business and personal communication for work, education, retail and other services. It is based on a concept of a multi-media super corridor where audio, computer and visual communications are interconnected. It involves investment in a high-capacity communication network for wide-band radio wave transmission connecting residents and workers. Questions raised here are: Would enough people use the system for tele-working, tele-shopping and tele-education to make a significant reduction in transport requirement? Would these facilities provide the necessary infrastructure to disperse the location of jobs, rather than concentrating in the city and surrounding area? Would the increase in the spatial area of interaction generate additional long-distance traffic?

Option 7: New Town


Option 7

New Town concentrates most of the development in a single location. The allocation of dwellings and business floor space is large enough to make the New Town an alternative to Cambridge city centre. It would require investment in new Transport Links to and from the city. The question is would the New Town attract enough firms and households to make a difference in the pressure for development elsewhere? A New Town of any scale is unlikely to be totally self-contained in terms of complete eradication of commuting. Would the interaction with the existing city and other parts of the area be of such a scale as to create large traffic problems? It is also argued that a New Town would be most sustainable in traffic terms below a population of say 50,000 or above 250,000.

Forecasting the impact of the options

Cambridge Futures has made use of two types of models for estimating the likely market responses to the policy options: the

MENTOR land-use model developed by ME&P and the SATURN highway model developed by WS Atkins. MENTOR is a Windows®-based land-use model. Although it is based on an innovative new software product, the model uses tried and tested techniques originally developed as part of the MEPLAN modelling framework (see Webster *et al.*, 1988). It has been designed to use standard census data for the UK and measures of accessibility from transport models. It requires inputs on a study-area scale to start the process of forecasting overall levels of employment and households for the region, and the allocation of dwellings and commercial floor space to zones within the area; this represents the policies to be tested. Given the inputs stated above, the model simulates equilibrium between the demand and supply of land and transport. The equilibrium provides a price (in rent or congestion) for space/land and networks. Figure 6.2 illustrates the main operations in the model: in the land-use model the demand for space and location by firms and households interacts with the supply of business floor space and housing in each location. The result of this interaction is seen through the price (or rent) for the space and land in each location. Once a balance between supply and demand is established, the transport model estimates the demand for travel by mode. The transport demand is modelled with the supply of transport resulting in an equilibrium price (congestion) in each part of the network. The transport model outputs the accessibility of each location, which is one of the determinant factors alongside price, in attracting firms and households in the following time period. The model is run in consecutive 5-year time periods. The seven policy options are

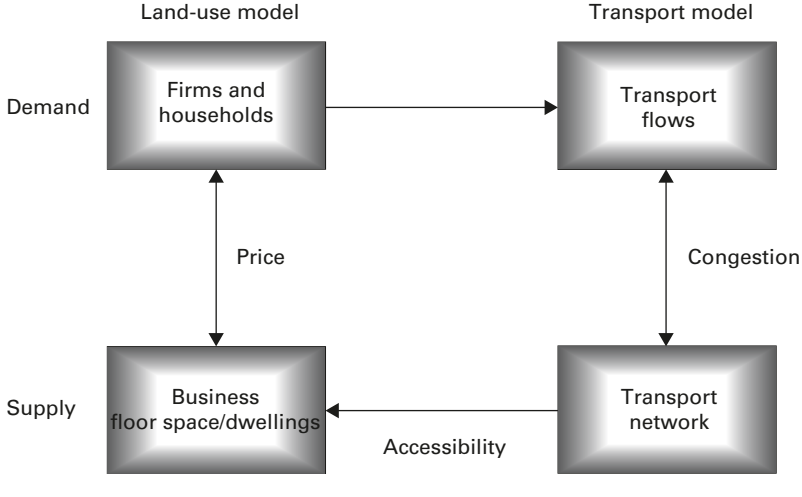


Figure 6.2
Land-use and transport model.