

## Task 6.1.4 Using Census Data to Fit the Base Year Model

### Discussion

While cross-sectional models of the WTSM form capture the general variation within the sample, it has often been found that they perform less well at the zonal level (in spite of the earlier remarks about accessibility etc.). This suggests that there may be specific features of the zones (for example, the availability of on-street parking) which are not captured in the model variables.

### Decision

It would therefore be prudent to allow for a correction, based on aggregate car ownership figures for each zone from Census data. There are various ways in which this correction can be made, depending on the extent of available data. In the past, given that zonal income data was not usually available, the model was often calibrated to the zone by adjusting the mean income to fit the base year car ownership. Alternatively, the model constants can be adjusted to obtain the same effect.

We would expect the car ownership level-income relationship to vary by location, population density etc. As generally this will affect the constant terms in the model rather than the income function, it will be most convenient to include these adjustments at the end of the process through the fitting to zonal census car ownership data.